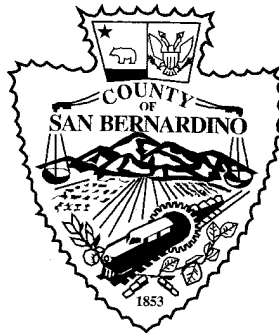


**San Bernardino County**

**Reported Communicable Diseases  
1999**



**San Bernardino County  
Human Services System  
Department of Public Health**

**July 2000**



## Acknowledgments

This report was prepared by Scott Nabity, MPH, of the Tuberculosis Control Program, and Kim Woods, MPH, of the Epidemiology Program, San Bernardino County Department of Public Health. Others contributing to this report include Thomas J. Prendergast, MD, MPH, Director of Public Health; Sarah Mack, MPH, Epidemiology Program Manager; Alexander Taylor, MPH, AIDS/STD Program Manager; and members of the Epidemiology and AIDS/STD Program staff including Arazeli Rodriquez and Christina Shoemaker.

This report presents a summary of communicable diseases reported in San Bernardino County in 1999. The contents are divided into 3 sections:

1. Tables of reported communicable diseases by age group and by race/ethnicity, and incidence of reported diseases preventable by immunization;
2. Graphs representing 10- to 20-year incidence and incidence rates per 100,000 population;
3. Special Disease Focus: *Epidemiological Trends of Reported Tuberculosis in San Bernardino County, 1980-99.*

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Comments regarding the report are welcomed and may be addressed to:

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<http://www.co.san-bernardino.ca.us/pubhlth/>



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## **San Bernardino County Reported Communicable Diseases 1999**

### ***Introduction***

The San Bernardino County Department of Public Health is charged by California law and San Bernardino County Code with protection of the health of the County's over 1.6 million citizens. To fulfill this responsibility, the Department carries out a broad and comprehensive public health program which includes public health services mandated by the State of California, a substantial range of personal health services requested by the people and chosen as priority matters by the San Bernardino County Board of Supervisors, and a number of County-mandated regulatory services related to health.

### ***Why Reporting of Communicable Disease is Important***

Physicians and personnel in laboratories, schools, daycare centers and others are obligated by law to report certain communicable diseases to the local department of public health. Monitoring reports of communicable disease in a community allows public health to fulfill its mandate of protecting the health of its citizens. With timely morbidity reports, public health can evaluate the impact of a given disease and make appropriate recommendations to limit its further spread.

Delay or failure to report communicable diseases has contributed to serious outbreaks in the past. Failure to report can result in increased disease in the community, time lost from work or school, increased costs for diagnosis and treatment, hospitalization and possibly death.

When reporting does occur, removing persons from sensitive occupations, e.g., food handlers, prevents the spread of diseases such as salmonellosis and hepatitis A. The early detection and appropriate treatment of patients with tuberculosis, the identification of asymptomatic carriers of typhoid and gonorrhea, the immunization of persons exposed to vaccine-preventable diseases and alerting healthcare providers about prevalent infections are just a few of the benefits derived by the entire community when reporting is timely and accurate.

### ***Purpose of the Communicable Disease Report***

The San Bernardino County Department of Public Health annual summary of communicable disease serves several functions. The report describes the extent and burden of various reported illnesses for the residents in this County. Where the impact of a certain disease in a particular group of individuals appears high, this information can be used to redirect disease control efforts. Additionally, this report helps evaluate the effectiveness of disease prevention and control programs currently operating in the County. It represents an evolving effort by several disease control programs in the County. As the communicable disease concerns of our citizens change, the data collected and summarized in this report will also change.

Additional information concerning AIDS illnesses in this County is available in summary reports generated by the San Bernardino County Department of Public Health AIDS/STD Program, and can be obtained by calling the AIDS Program at (909) 383-3060.

# San Bernardino County Reported Communicable Diseases 1999

## How to Interpret This Report

The San Bernardino County Department of Public Health Epidemiology Program is pleased to present a new format for the document Reported Communicable Diseases 1999. This new format contains more epidemiological data as well as 5-year historical incidence by racial/ethnic group and age group. Some of the features of the newly formatted disease pages are described below.

### San Bernardino County Reported Communicable Diseases 1999

#### Diseases Transmitted by Respiratory Secretions

## Tuberculosis

Although many communicable diseases may be transmitted by more than one mechanism (i.e., Hepatitis B), here, they are categorized by *primary* mode of transmission.

- ? Although TB may occur anywhere in the body, 81% of cases reported from 1993-99 were pulmonary. In general, only pulmonary and laryngeal TB is considered communicable.
- ? The proportion of cases born outside the US rose from 33% in 1993 to 57% in 1999.

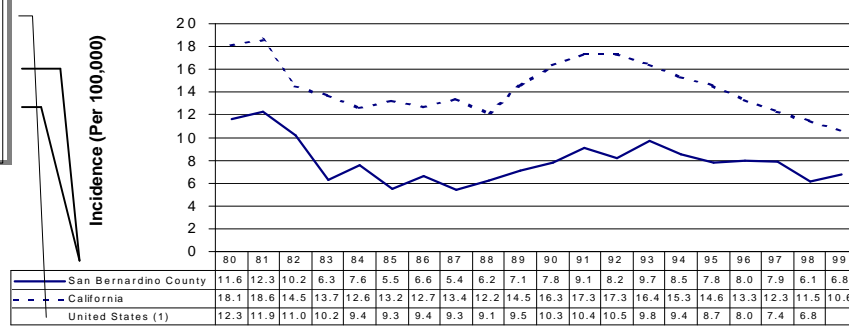
Each selected disease is accompanied by a commentary section that describes general disease facts and local epidemiological insight.

For comparison of the local disease burden with national goals for reduction in the incidence of designated diseases by the year 2000, the Healthy People 2000 Objective is indicated on the disease pages for which an objective has been defined. Objectives not expressed as a rate cannot be directly compared with local disease burden. Not all diseases reportable in San Bernardino County have been assigned a Healthy People 2000 Objective.

San Bernardino County					
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	12	24	22	18	15
Black	23	14	12	13	17
Hispanic	65	60	60	44	45
Asian/PI	22	28	33	26	36
Native Am	1	2	1	0	0
Not Specified	0	0	0	0	0
<b>Age Group</b>					
<1	2	3	6	0	1
1-4	15	13	7	7	4
5-9	10	8	3	1	2
10-14	3	3	3	2	0
15-19	1	4	6	5	3
20-24	10	5	10	7	3
25-29	8	8	10	5	10
30-34	9	14	11	11	8
35-39	12	11	10	9	7
40-44	8	11	14	9	10
45-54	16	16	14	13	19
55-64	9	13	11	9	18
? 65	20	19	23	23	28
Not Specified	0	0	0	0	0
<b>Total</b>	<b>123</b>	<b>128</b>	<b>128</b>	<b>101</b>	<b>113</b>

HP 2000 Objective: 3.5 cases per 100,000 population

Tuberculosis in San Bernardino County, California and the United States, 1980-1999



Footnotes and data sources applicable to all pages of this report are referenced in Appendices F and G.



## **San Bernardino County Reported Communicable Diseases 1999**

### ***Data Limitations***

The obligation for health care professionals to report designated diseases and conditions to their local Department of Public Health is mandated by Title 17, Sections 2500 and 2505 of the California Code of Regulations. The data presented in this report were tabulated from disease reports received from laboratories, hospitals, physicians, schools and other health providers throughout the county through the passive surveillance system established for reportable conditions. For this reason, a few major limitations must be acknowledged when interpreting these data.

First, the incidence of disease presented in this report underrepresents the true burden of disease in San Bernardino County. It is clear that not every reportable disease or condition is actually identified by or reported to the Department of Public Health. Individuals may not be ill enough to require medical care or the physician may not request testing of the patient at the time of the office visit. Diseases and conditions reportable only by physicians (see Appendix C) are significantly underreported. Illnesses that are a) fatal, b) require prophylaxis for prevention or c) are reportable by both laboratories and physicians are more likely to be reported.

Additionally, public health data may not reflect the true risk of exposure of county residents to a particular pathogen. Individuals identified as having a notifiable condition are reported by place of residence, not by place of exposure. Immigrants and other individuals who travel both domestically and abroad may acquire an unusual illness or other condition in the location of travel. These individuals are nevertheless counted in San Bernardino County if their address of residence is within the County. Conversely, residents who visit San Bernardino County may acquire an infection here and subsequently then be reported by the health jurisdiction in which they permanently reside. County residents who are exposed to a communicable disease in another county where they work or socialize may unknowingly be part of a multi-county outbreak.



# Section 1

## **Reported Communicable Diseases in 1999**

Table 1: By Age Group

Table 2: By Race/Ethnicity

Table 3: Preventable by Immunization



**Table 1. Reported Communicable Diseases by Age Group (in Years), San Bernardino County, 1999**

DISEASE NAME	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55-64	65+	Unknown	Total
AIDS (1)	0	0	0	0	0	5	14	30	26	27	23	5	4	0	134
Amebiasis	0	3	3	0	0	0	0	1	4	0	0	2	1	0	14
Anthrax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ascariasis	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Botulism, Infant	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Botulism, Wound	0	0	0	0	0	0	0	0	2	1	2	0	0	0	5
Brucellosis	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Campylobacteriosis	4	40	22	8	6	8	10	7	10	10	13	12	5	0	155
Chlamydia	6	3	2	58	1,576	1,654	673	280	148	82	33	8	4	1	4,528
Chlamydial PID (2)	0	0	0	0	9	7	3	0	0	0	0	0	0	0	19
Cholera (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coccidioidomycosis	0	0	0	0	0	0	0	1	1	1	2	4	1	0	10
Cryptococcosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	0	1	1	0	0	0	0	1	2	0	0	0	0	0	5
Cysticercosis	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Dengue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Encephalitis, Viral	0	1	1	0	0	0	0	0	0	0	0	0	1	0	3
Escherichia coli O157:H7	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Giardiasis	2	16	8	4	3	5	4	8	3	5	7	3	7	0	75
Gonorrhea, Total (4)	0	1	0	4	196	257	118	80	39	17	22	3	1	0	738
Gonococcal PID (2)	0	0	0	0	2	3	2	2	0	2	0	0	0	0	11
Haemophilus Influenzae Invasive (5)	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic Uremic Syndrome	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Hepatitis A	0	11	25	20	6	9	15	5	9	7	10	7	8	0	132
Hepatitis B, (Acute)	0	0	0	1	1	4	2	4	4	7	6	2	1	0	32
Hepatitis B, (Carrier)	2	0	1	6	30	28	51	53	64	63	90	33	30	0	451
Hepatitis C, (Acute)	0	0	0	0	0	0	1	3	1	3	0	0	0	0	8
Hepatitis C, (Chronic) (6)	2	2	0	2	21	44	104	208	438	572	832	235	123	3	2,586
Hepatitis D	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Influenza (Types A and B)	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Kawasaki Syndrome	0	1	3	0	0	0	0	0	0	0	0	0	0	0	4
Legionellosis	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
Leprosy (Hansen's Disease)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Leptospirosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Listeriosis	0	0	0	0	0	0	0	0	0	1	1	0	3	0	5
Lyme Disease	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Malaria	0	0	1	0	1	1	1	0	0	1	0	0	0	0	5
Measles (Rubeola)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningitis, Bacterial (7)	8	0	0	0	0	0	1	2	0	0	5	1	3	0	20
Meningitis, Fungal	0	0	0	0	0	0	2	2	1	1	1	0	1	0	8

**Table 1. Reported Communicable Diseases by Age Group (in Years), San Bernardino County, 1999**

<b>DISEASE NAME</b>	<b>&lt;1</b>	<b>1-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65+</b>	<b>Unknown</b>	<b>Total</b>
Meningitis, Viral	8	4	7	6	4	2	5	3	4	2	5	0	0	0	50
Meningococcal Disease (8)	2	1	1	1	2	0	0	0	0	0	0	1	0	0	8
Mumps	0	0	3	4	0	0	0	0	0	0	1	0	0	0	8
Non-Gonococcal Urethritis	0	0	0	1	11	38	36	16	20	16	14	3	0	0	155
Pelvic Inflammatory Disease (2)	0	0	0	0	17	18	10	5	3	4	3	0	0	0	60
Pertussis (Whooping Cough)	14	0	1	1	0	0	0	0	0	0	0	0	0	0	16
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psittacosis	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Q-Fever	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Rabies, Human	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella (German Measles)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella Syndrome, Congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis	22	29	21	16	6	10	10	11	15	10	11	12	10	0	183
Shigellosis, Total	0	13	18	3	4	4	8	2	3	3	2	2	1	0	63
Group A (S. dysenteriae)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Group B (S. flexneri)	0	4	9	0	2	1	1	0	2	0	0	0	0	0	19
Group C (S. boydii)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2
Group D (S. sonnei)	0	9	8	2	2	3	7	2	1	2	2	2	0	0	40
Group Unknown	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
Strongyloidiasis	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
Syphilis, Total	1	0	0	0	2	7	11	26	35	13	18	8	4	0	125
Primary	0	0	0	0	0	1	1	1	1	1	0	0	0	0	5
Secondary	0	0	0	0	1	2	0	0	1	3	0	0	0	0	7
Early Latent (<1 yr)	0	0	0	0	0	1	1	5	2	0	0	0	0	0	9
Late Latent/Late (>1 yr)	0	0	0	0	1	3	9	20	31	9	18	8	4	0	103
Congenital	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tetanus	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Tuberculosis	1	4	2	0	3	3	10	8	7	10	19	18	28	0	113
Tularemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoid Fever, (Acute)	0	0	1	1	0	0	0	0	0	0	0	0	2	0	4
Typhoid Fever, (Carrier)	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
Vibrio Infections (3)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Yellow Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yersiniosis	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2

**See Appendices F and G for Notes and Sources for Table 1**

**Table 2. Reported Communicable Diseases by Race/Ethnicity, San Bernardino County, 1999**

	White	Black	Hispanic	Native American	Asian	Other	Unknown	Total
AIDS (1)	51	28	53	0	2	0	0	134
Amebiasis	7	1	3	0	0	0	3	14
Anthrax	0	0	0	0	0	0	0	0
Ascariasis	0	0	0	0	0	0	1	1
Botulism, Infant	1	1	1	0	1	0	0	4
Botulism, Wound	2	0	2	0	0	0	1	5
Brucellosis	0	0	1	0	0	0	0	1
Campylobacteriosis	49	5	77	0	6	3	15	155
Chlamydia	631	601	1,026	10	66	166	2,028	4,528
Chlamydial PID (2)	1	4	6	0	0	1	7	19
Cholera (3)	0	0	0	0	0	0	0	0
Coccidioidomycosis	1	2	1	0	0	1	5	10
Cryptococcosis	0	0	0	0	0	0	0	0
Cryptosporidiosis	1	0	1	0	1	0	2	5
Cysticercosis	0	0	1	0	0	0	0	1
Dengue	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0
Encephalitis, Viral	2	0	1	0	0	0	0	3
Escherichia coli O157:H7	1	0	0	0	1	0	0	2
Giardiasis	37	4	26	0	2	0	6	75
Gonorrhea, Total (4)	65	227	75	1	5	17	348	738
Gonococcal PID (2)	1	3	5	0	0	0	2	11
Haemophilus Influenzae Invasive (5)	1	0	0	0	0	0	1	2
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0
Hemolytic Uremic Syndrome	1	0	0	0	0	0	0	1
Hepatitis A	49	3	67	1	0	1	11	132
Hepatitis B, (Acute)	21	4	2	0	2	0	3	32
Hepatitis B, (Carrier)	95	35	35	3	180	7	96	451
Hepatitis C, (Acute)	2	2	2	0	1	0	1	8
Hepatitis C, (Chronic) (6)	307	78	141	4	16	16	2,024	2,586
Hepatitis D	1	0	0	0	0	0	0	1
Influenza (Types A and B)	0	0	0	0	0	0	2	2
Kawasaki Syndrome	2	0	2	0	0	0	0	4
Legionellosis	2	0	0	0	0	0	0	2
Leprosy (Hansen's Disease)	0	0	0	0	1	0	0	1
Leptospirosis	0	0	0	0	0	0	0	0
Listeriosis	5	0	0	0	0	0	0	5
Lyme Disease	1	0	0	0	0	0	0	1
Malaria	1	1	3	0	0	0	0	5
Measles (Rubeola)	0	0	0	0	0	0	0	0
Meningitis, Bacterial (7)	9	1	5	0	0	0	5	20
Meningitis, Fungal	2	2	2	0	0	0	2	8

**Table 2. Reported Communicable Diseases by Race/Ethnicity, San Bernardino County, 1999**

	White	Black	Hispanic	Native American	Asian	Other	Unknown	Total
Meningitis, Viral	21	5	16	0	2	2	4	50
Meningococcal Disease (8)	4	3	0	0	0	0	1	8
Mumps	1	0	6	0	1	0	0	8
Non-Gonococcal Urethritis	50	40	49	1	0	5	10	155
Pelvic Inflammatory Disease (2)	7	3	8	0	0	3	39	60
Pertussis (Whooping Cough)	3	0	12	0	0	0	1	16
Plague	0	0	0	0	0	0	0	0
Psittacosis	1	0	0	0	0	0	0	1
Q-Fever	0	0	0	0	0	1	0	1
Rabies, Human	0	0	0	0	0	0	0	0
Rubella (German Measles)	0	0	0	0	0	0	0	0
Rubella Syndrome, Congenital	0	0	0	0	0	0	0	0
Salmonellosis	77	10	71	0	10	5	10	183
Shigellosis, Total	13	2	43	0	1	0	4	63
Group A ( <i>S. dysenteriae</i> )	0	0	0	0	0	0	0	0
Group B ( <i>S. flexneri</i> )	2	0	15	0	1	0	1	19
Group C ( <i>S. boydii</i> )	1	0	0	0	0	0	1	2
Group D ( <i>S. sonnei</i> )	9	2	27	0	0	0	2	40
Group Unknown	1	0	1	0	0	0	0	2
Strongyloidiasis	0	0	1	0	0	0	1	2
Syphilis, Total	27	30	38	0	2	8	20	125
Primary	4	0	0	0	0	1	0	5
Secondary	5	1	1	0	0	0	0	7
Early Latent (<1 yr)	2	0	3	0	0	0	4	9
Late Latent/Late (>1 yr)	15	29	34	0	2	7	16	103
Congenital	1	0	0	0	0	0	0	1
Tetanus	1	0	0	0	0	0	0	1
Tuberculosis	15	17	45	0	36	0	0	113
Tularemia	0	0	0	0	0	0	0	0
Typhoid Fever, (Acute)	1	0	0	0	3	0	0	4
Typhoid Fever, (Carrier)	0	0	0	0	2	0	0	2
Vibrio Infections (3)	0	0	1	0	0	0	0	1
Yellow Fever	0	0	0	0	0	0	0	0
Yersiniosis	0	1	0	0	0	0	1	2

**See Appendices F and G for Notes and Sources for Table 2**



**Table 3. Reported Cases of Diseases Preventable by Immunization  
San Bernardino County, 1997 - 1999**

Disease	Reported Cases					
	All Ages			Children <5 Years		
	1997	1998	1999	1997	1998	1999
Congenital Rubella Syndrome	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0
Haemophilus influenzae*	5	1	2	1	0	0
Hepatitis A	333	268	132	22	23	11
Hepatitis B (acute)	37	27	32	0	0	0
Hepatitis B Carrier	354	389	451	2	1	2
Measles (Rubeola)	3	0	0	0	0	0
Mumps	14	8	8	3	1	0
Pertussis	9	10	16	9	9	14
Poliomyelitis, paralytic	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Tetanus	0	0	1	0	0	0

\* Includes both Meningitis and Sepsis



## **Section 2**

### **Incidence Rates, 10- to 20-year**

Graphs of incidence and rate per 100,000 population of selected reportable diseases.



## San Bernardino County Reported Communicable Diseases 1999

### *Diseases Transmitted by Blood and Blood Products*

# Hepatitis B, Acute

?? Acute infection with hepatitis B virus (HBV) is characterized by anorexia, abdominal pain, and nausea, which progresses to jaundice in 10% of children and 30-50% of adults. Only a small proportion of acute infections is symptomatic, resulting in considerable underreporting to local health departments. About 10% of adults with acute infection progress to chronic infection, and are then considered infectious for life.

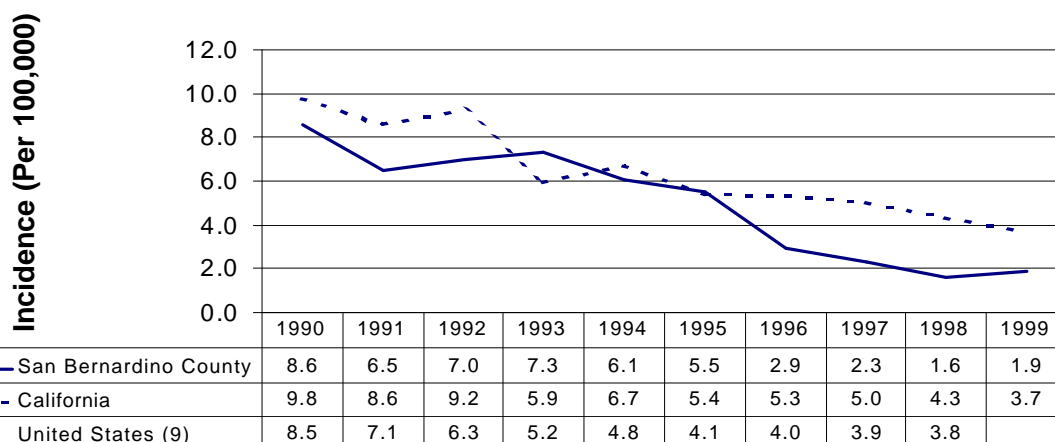
?? Up to 80% of hepatocellular carcinomas is caused by HBV infection, which is second only to tobacco among known human carcinogens (American Public Health Association, 2000).

?? Incidence peaked in the US in 1985 at approximately 70 cases per 100,000 population and has since steadily declined. Several factors have aided the progress in reducing HBV morbidity in the US, including the licensure of the current hepatitis B vaccine and subsequently incorporated into the childhood immunization schedule. Other practices initiated to reduce the spread of HIV infection also led to a reduction in HBV cases in gay men and injecting drug users among others. Birth outside the US is perhaps the most commonly associated risk, however, gay men, injecting drug users and heterosexuals with multiple sex partners remain at risk.

?? During 1995-99, 65% of County cases were male. During this period, 51% of cases with an identified racial or ethnic group was white.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	38	12	12	7	21
Black	7	5	3	3	4
Hispanic	17	8	9	8	2
Asian	12	4	2	0	2
Native Am	0	1	0	0	0
Other / Not Specified	13	16	11	9	3
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	1	0	0	0	0
5-9	3	1	0	0	0
10-14	0	0	0	0	1
15-19	2	6	2	0	1
20-24	9	3	2	4	4
25-29	8	3	5	6	2
30-34	17	10	6	7	4
35-39	13	9	7	6	4
40-44	12	5	4	1	7
45-54	14	7	8	1	6
55-64	5	2	2	2	2
?65	3	0	1	0	1
Not Specified	0	0	0	0	0
<b>Total</b>	<b>87</b>	<b>46</b>	<b>37</b>	<b>27</b>	<b>32</b>

**Incidence Rates for Acute Hepatitis B in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Blood and Blood Products

# Hepatitis C

?? As few as 10% of those with hepatitis C virus (HCV) infection develop symptoms but 70-80% develop chronic infection. Chronic HCV infection can result in serious liver damage and is the leading cause of liver transplants in the US. The most common risk factors for HCV infection are having received a blood transfusion prior to 1992 and injecting illicit drugs.

?? Hepatitis C became a reportable disease in California in February 1996. Because current laboratory methods do not permit differentiation between acute and chronic hepatitis C infection, the current definition for an acute HCV infection was adopted nationally in May 1997 and must include all of the following:

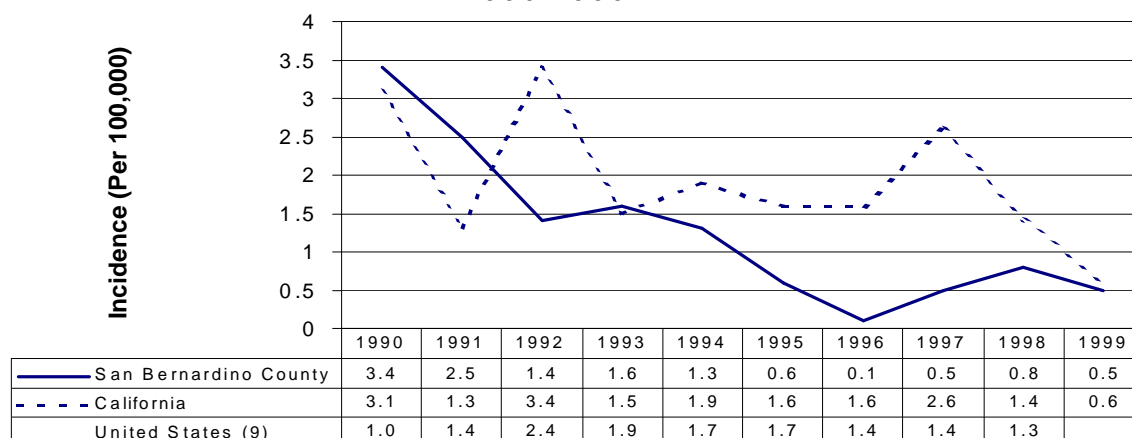
- an acute illness with discrete symptom onset
- serum aminotransferase levels > 2.5 times the upper limit of normal
- antibody to hepatitis C virus, verified by a supplemental test
- negative tests for acute hepatitis A and B

?? The incidence of acute hepatitis C appears small, but the public health impact of chronic infection and consequent sequelae is enormous. In San Bernardino County, 2586 chronic infections were reported in 1999. Ninety-three percent of those were age 30 years or older.

?? During 1995-99, there were 40 acute cases in San Bernardino County, of which 17 (42.5%) were Hispanic and 22 (55.0%) were male.

	San Bernardino County, Acute				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	3	1	1	5	2
Black	0	0	1	1	2
Hispanic	4	0	6	5	2
Asian	1	0	0	0	1
Native Am	0	0	0	0	0
Other / Not Specified	1	1	0	2	1
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	1	0
25-29	0	0	0	1	1
30-34	0	0	2	3	3
35-39	5	0	2	4	1
40-44	1	1	2	1	3
45-54	0	1	2	0	0
55-64	2	0	0	2	0
?65	1	0	0	1	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>2</b>	<b>8</b>	<b>13</b>	<b>8</b>

**Incidence Rates for Acute Hepatitis C/Non-A,Non-B in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Fecal-Oral Route

# Amebiasis

?? Humans serve as the reservoir for *Entamoeba histolytica* infections. Although certain sexual practices that involve direct anal-oral contact are important modes of transmission in some population groups, infection occurs most often when the cyst form of the protozoan *E. histolytica* is consumed in food and water.

?? Many infections are asymptomatic, however, symptoms can include fever, chills, abdominal discomfort, and bloody or mucoid diarrhea. Rarely the parasite may spread through the bloodstream to the liver.

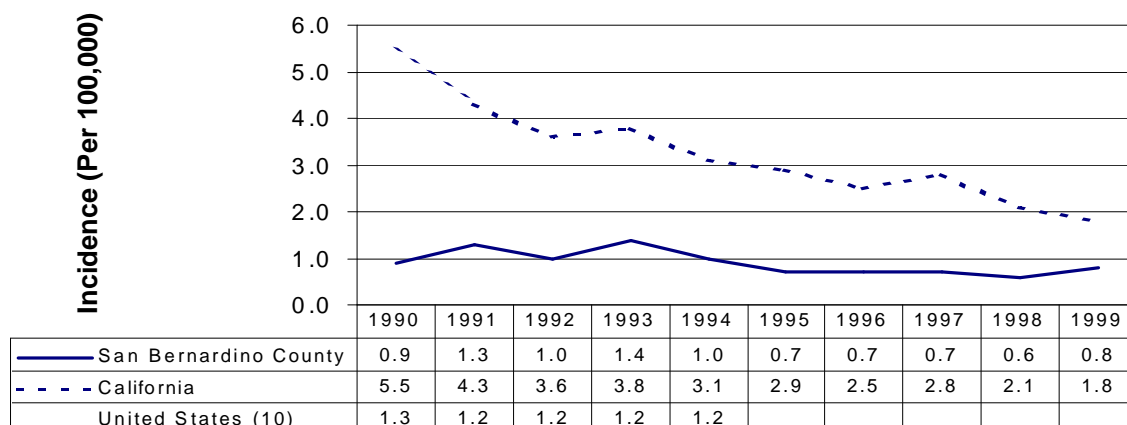
?? Diagnosis is made by examination of fecal specimens under a microscope.

?? Preventing transmission involves treating cases, educating the public on the importance of handwashing after using the restroom and before preparing food, and protecting food and water supplies from fecal contamination.

?? The California rate decreased 3-fold during 1990-99. For the same period, however, the rate for San Bernardino County remained virtually unchanged.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	3	1	1	2	7
Black	0	2	1	1	1
Hispanic	4	4	7	5	3
Asian	2	2	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	2	2	3	1	3
<b>Age Group</b>					
<1	0	0	0	1	0
1-4	1	0	0	2	3
5-9	0	1	3	0	3
10-14	1	0	0	2	0
15-19	0	0	0	0	0
20-24	0	0	1	1	0
25-29	1	0	2	0	0
30-34	1	3	2	1	1
35-39	1	2	1	0	4
40-44	1	0	1	1	0
45-54	2	2	0	0	0
55-64	1	0	0	1	2
?65	2	3	2	0	1
Not Specified	0	0	0	0	0
<b>Total</b>	<b>11</b>	<b>11</b>	<b>12</b>	<b>9</b>	<b>14</b>

**Incidence Rates for Amebiasis in San Bernardino County, California and the United States, 1990-99**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Fecal-Oral Route

# Campylobacteriosis

?? *Campylobacter jejuni* is a common bacterium associated with consumption of undercooked chicken, beef, pork and unpasteurized milk. As the reservoir of *C. jejuni* is animals, contact with puppies and kittens with diarrhea is also a source of infection.

?? Symptoms of illness may include diarrhea, abdominal cramps, fever, malaise, vomiting, and nausea, and usually last 2 to 5 days. Some cases appear clinically like appendicitis.

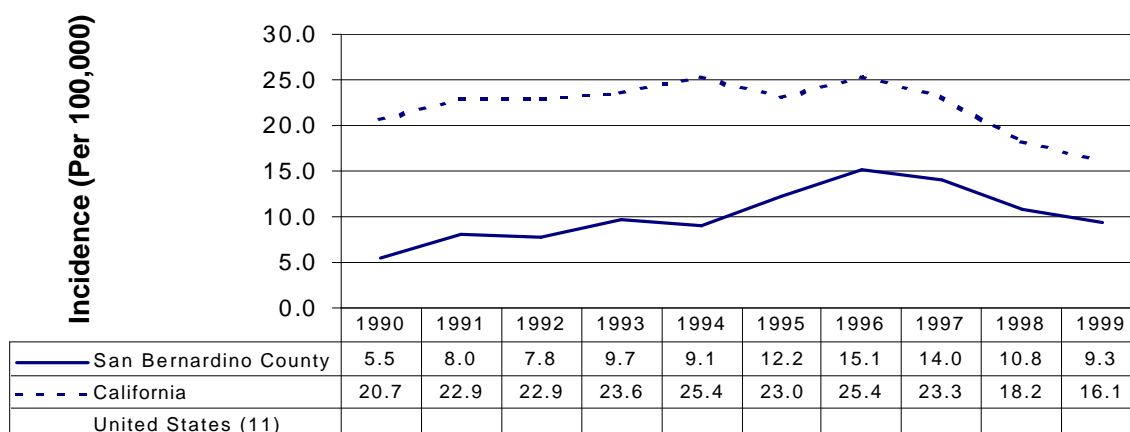
?? In 1996 in San Bernardino County, 28 people became ill with campylobacteriosis as a result of chicken and pork cooked in a backyard barbecue pit at a church barbecue.

?? Of the 992 cases reported from 1995 to 1999, 404 (40.7%) were Hispanic. These data may reflect a difference in the preferences for dishes that contain undercooked chicken or pork among ethnic groups. The largest number of reported cases were in the 1-4 age group. The peak incidence in cases in this age group may reflect the smaller infective dose required in smaller children and an increased tendency to seek medical care for this age group.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	83	61	81	31	49
Black	8	12	6	4	5
Hispanic	55	84	111	77	77
Asian	3	4	3	3	6
Native Am	0	0	0	0	0
Other / Not Specified	44	79	26	62	18
<b>Age Group</b>					
<1	18	19	11	11	4
1-4	43	44	42	34	40
5-9	13	23	20	14	22
10-14	9	11	13	10	8
15-19	8	7	17	9	6
20-24	19	11	14	6	8
25-29	16	27	16	9	10
30-34	18	18	19	11	7
35-39	16	14	12	17	10
40-44	8	12	8	13	10
45-54	15	27	23	20	13
55-64	1	14	17	10	12
≥65	8	13	15	13	5
Not Specified	1	0	0	0	0
<b>Total</b>	<b>193</b>	<b>240</b>	<b>227</b>	<b>177</b>	<b>155</b>

**HP 2000 Objective: 25 cases per 100,000 population**

**Incidence Rates for Campylobacteriosis in San Bernardino County, California and the United States, 1990-1999**





# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Fecal-Oral Route

# *E. coli* O157:H7 Infection

?? There are several strains of *Escherichia coli* that can cause illness. *E. coli* O157:H7 was first identified in 1982 after an outbreak of hemorrhagic colitis in the USA. In 1993, *E. coli* O157:H7 caused an outbreak of illnesses in several western states associated with consumption of undercooked hamburgers at a fast food chain. The majority of cases occurred in the younger age groups. Outbreaks have also occurred in association with consumption of unpasteurized milk and apple cider, and activities such as swimming in inadequately chlorinated pools with diaper-aged children.

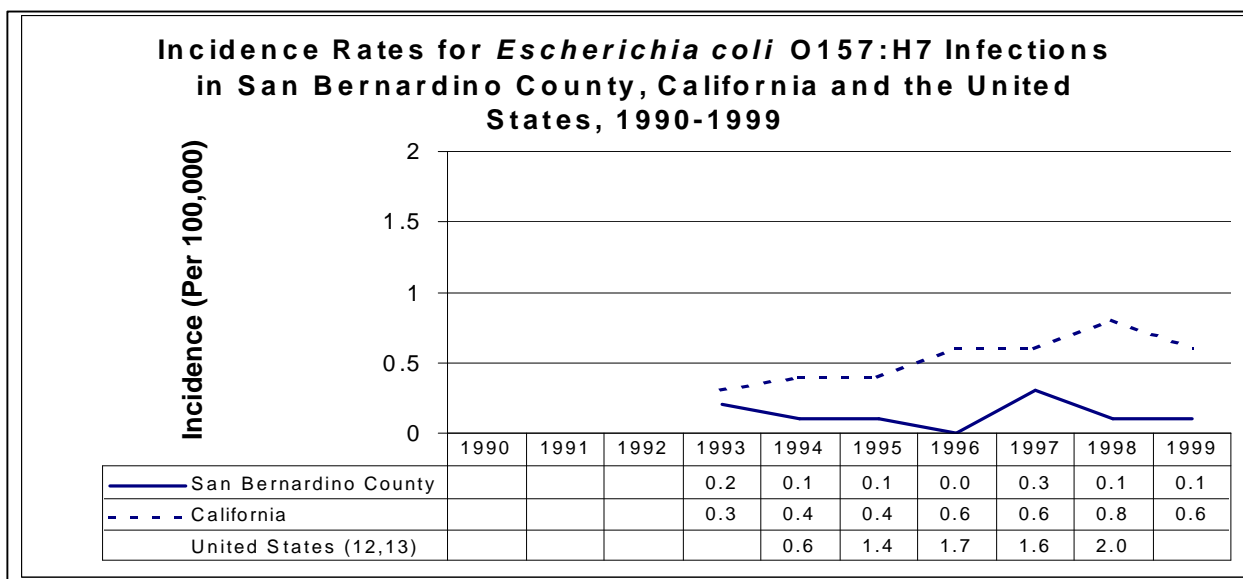
?? Infection with *E. coli* O157:H7 may cause a range of illness from mild to bloody diarrhea. The bacterial cytotoxins can cause a severe complication called Hemolytic Uremic Syndrome (HUS). HUS, most common in children under 5 years of age, is characterized by kidney failure.

?? Prevention involves cooking meat, especially hamburger, until no longer pink and not consuming unpasteurized milk and apple juice.

?? The rates for both the County and California have consistently remained below those for the US and the HP 2000 Objective since becoming a nationally notifiable disease.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	1	0	3	1	1
Black	0	0	0	0	0
Hispanic	0	0	1	0	0
Asian	0	0	1	0	1
Native Am	0	0	0	0	0
Other / Not Specified	1	0	0	0	0
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	2	0	3	0	1
5-9	0	0	1	0	1
10-14	0	0	0	0	0
15-19	0	0	1	1	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	0
?65	0	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>2</b>

**HP 2000 Objective: 4 cases per 100,000 population**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Fecal-Oral Route

# Giardiasis

?? Giardiasis is caused by infection with the flagellate protozoan parasite *Giardia lamblia*, and the reservoirs of infection are humans and wild and domestic animals. Diagnosis is made by identification of the protozoan in stool.

?? The highest number of reported cases consistently occurred in the 1 to 4 year age group, reflecting increased daycare exposures and a greater tendency to seek medical care for illnesses in children. This is consistent with national data reporting higher numbers of cases among children under the age of 5 years.

?? Infections are often asymptomatic but symptoms can include chronic diarrhea, steatorrhea, abdominal cramps, bloating, loose and pale greasy stools, fatigue and weight loss.

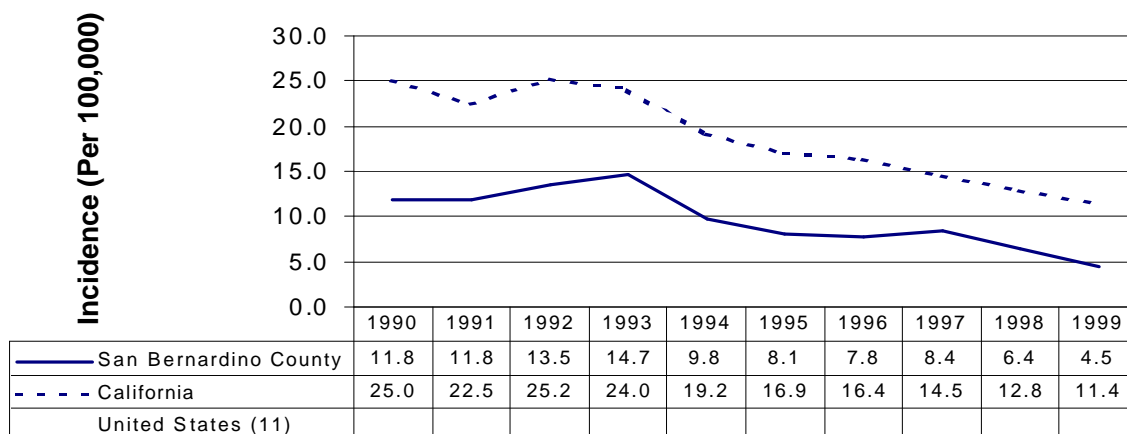
?? Infection is associated with drinking contaminated water from wells, rivers and lakes.

?? Infection has additionally been associated with having contact with children who spend time in daycare settings.

?? Certain sexual behaviors may place individuals and population groups, particularly men who have sex with men, at risk for direct person-to-person transmission of *G. lamblia*.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	54	28	64	26	37
Black	8	4	6	3	4
Hispanic	29	44	48	42	26
Asian	17	6	3	5	2
Native Am	0	0	0	0	0
Other / Not Specified	20	42	14	30	6
<b>Age Group</b>					
<1	3	4	1	2	2
1-4	37	39	26	33	16
5-9	17	13	23	18	8
10-14	9	4	10	7	4
15-19	2	7	5	2	3
20-24	6	6	3	1	5
25-29	12	11	10	11	4
30-34	4	8	9	7	8
35-39	17	8	12	8	3
40-44	8	5	9	5	5
45-54	9	13	12	3	7
55-64	2	6	11	6	3
?65	2	0	4	3	7
Not Specified	0	0	0	0	0
<b>Total</b>	<b>128</b>	<b>124</b>	<b>135</b>	<b>106</b>	<b>75</b>

**Incidence Rates for Giardiasis in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Fecal-Oral Route

# Hepatitis A

?? The highest numbers of cases are seen in older children ages 5 to 14 years and in adults 25 to 29 years of age. This may represent contact with asymptomatic children under the age of 4 years.

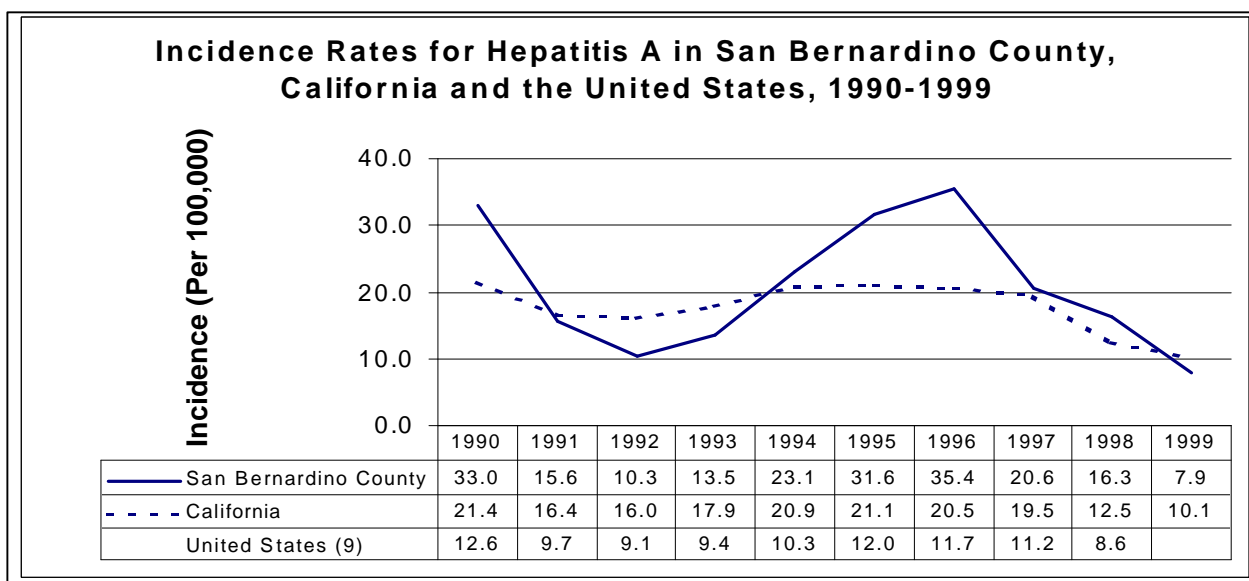
?? Hepatitis A cases typically peak every decade. In San Bernardino County, between 1994 and 1995, there was one community outbreak involving 52 cases spread person-to-person. In 1996, 18 cases among children and parents occurred in a daycare center, spread by asymptomatic children when infection was detected by serologic tests for acute illness.

?? Factors most frequently associated with hepatitis A infection in the US include, in order of estimated importance: having a household or other contact with hepatitis A, being employed at or attending a daycare, traveling internationally, being part of a known outbreak, and engaging in sex between men. Approximately half of cases have no source of infection identified. Where household contacts of adults without a known source case were tested, 25-40% of contacts under 6 years of age had serologic evidence of recent infection.

?? The Advisory Committee on Immunization Practices (ACIP) has recently recommended vaccine for all children in California over the age of 2 years.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	219	200	122	81	49
Black	30	12	13	14	3
Hispanic	171	196	142	132	67
Asian	4	3	0	1	0
Native Am	2	0	0	0	1
Other / Not Specified	73	152	56	40	12
<b>Age Group</b>					
<1	3	0	2	0	0
1-4	34	35	20	23	11
5-9	67	70	64	47	25
10-14	47	77	29	32	20
15-19	59	52	26	25	6
20-24	57	48	39	23	9
25-29	68	65	51	24	15
30-34	47	75	33	27	5
35-39	38	58	27	24	9
40-44	28	29	10	17	7
45-54	37	28	20	21	10
55-64	7	12	7	4	7
?65	6	14	5	1	8
Not Specified	1	0	0	0	0
<b>Total</b>	<b>499</b>	<b>563</b>	<b>333</b>	<b>268</b>	<b>132</b>

**HP 2000 Objective: 16 cases per 100,000 population**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Fecal-Oral Route

# Listeriosis

?? Infection in healthy individuals with *Listeria monocytogenes* is manifested by sudden mild illness with influenza-like symptoms. Individuals who are immunocompromised, pregnant, very young or very old are at increased risk for meningoenzephalitis and sepsis. Infection during pregnancy may result in sepsis, meningitis or stillbirth in infants.

?? Outbreaks have occurred associated with consumption of soft cheeses made from raw milk, contaminated vegetables and deli meats.

?? The majority of the very small number of San Bernardino County cases has occurred in individuals who were older in age or immunocompromised.

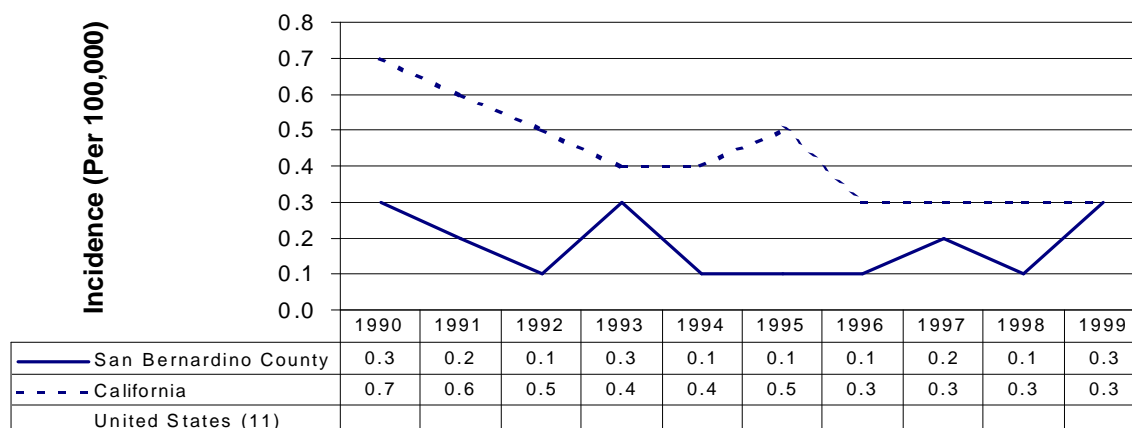
?? Prevention of infection involves educating high-risk individuals to thoroughly cook meats, wash vegetables before consumption and to avoid upasteurized dairy products.

?? San Bernardino County has remained below the HP 2000 Objective established for listeriosis at least since 1990 and California has met this goal since 1992.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	0	1	3	1	5
Black	0	0	0	0	0
Hispanic	0	0	0	1	0
Asian	0	0	0	0	0
Native Am	2	0	0	0	0
Other / Not Specified	0	0	0	0	0
<b>Age Group</b>					
<1	1	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	1	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	1
45-54	0	0	0	0	1
55-64	0	0	0	0	0
?65	0	1	3	2	3
Not Specified	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>5</b>

HP 2000 Objective: 0.5 cases per 100,000 population

**Incidence Rates for Listeriosis in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Fecal-Oral Route

# Salmonellosis

?? In addition to direct person-to-person spread, salmonellosis is transmitted by consumption of undercooked meat, chicken, eggs and unpasteurized milk. In recent years, sprouts, cantaloupes and tomatoes contaminated by animal or human waste have also caused illness. Illness is also associated with contact to reptiles, turtles, and less commonly dogs and cats.

?? Salmonella has caused very large outbreaks of ill individuals in the US, including 16,000 from municipal water in 1965, 197,000 from milk in 1985, and 224,000 from ice cream in 1994.

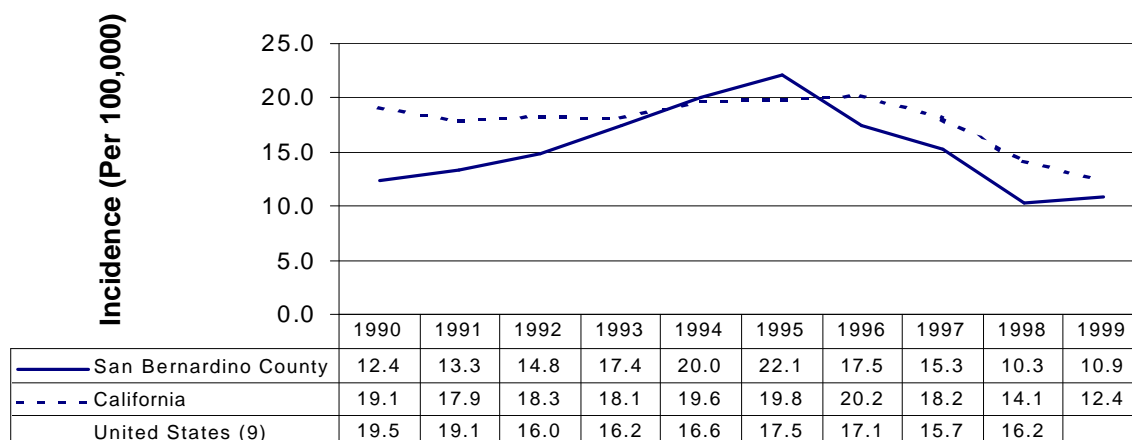
?? Of the more than 2,400 serotypes of *Salmonella* spp., *S. enteritidis* increased dramatically in Southern California in 1994 resulting from increases in sporadic illnesses and outbreaks. *S. enteritidis* is currently responsible for approximately 40% of California cases each year. Studies have associated *S. enteritidis* with consumption of raw or undercooked eggs, and eating at restaurants.

?? Salmonella infection can cause diarrhea, headache, abdominal cramps and fever. The very young, very old and individuals with underlying health conditions are at greater risk for sepsis or death.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	117	81	90	52	77
Black	12	21	20	5	10
Hispanic	96	86	90	61	71
Asian	60	13	8	6	10
Native Am	0	0	0	0	0
Other / Not Specified	64	78	39	45	15
<b>Age Group</b>					
<1	28	41	24	17	22
1-4	68	46	47	29	29
5-9	41	32	18	18	21
10-14	26	19	13	9	16
15-19	23	9	7	6	6
20-24	23	10	17	8	10
25-29	19	13	16	12	10
30-34	18	14	19	14	11
35-39	20	19	23	13	15
40-44	14	15	13	7	10
45-54	15	24	20	12	11
55-64	16	16	12	12	12
≥65	37	21	18	12	10
Not Specified	1	0	0	0	0
<b>Total</b>	<b>349</b>	<b>279</b>	<b>247</b>	<b>169</b>	<b>183</b>

**HP 2000 Objective: 16 cases per 100,000 population**

**Incidence Rates for Salmonellosis in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Fecal-Oral Route

# Shigellosis

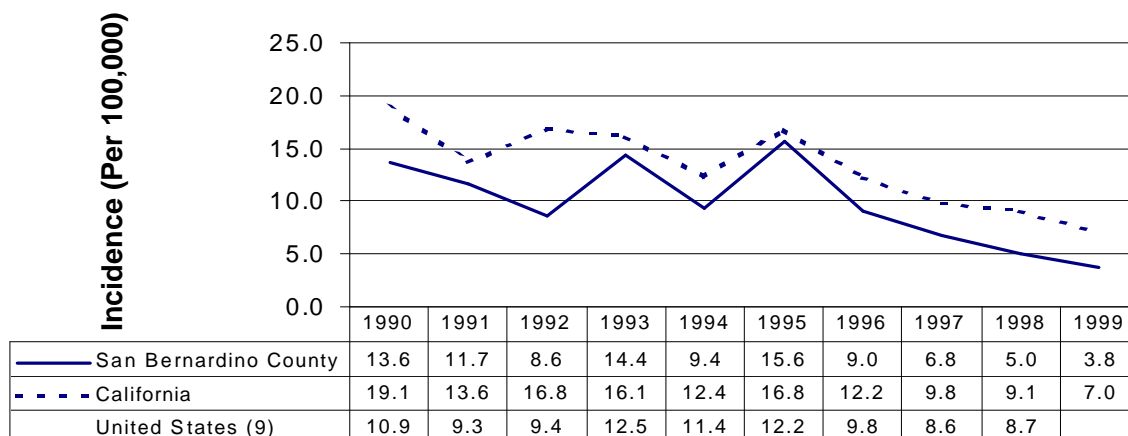
?? Consumption of as few as 10 bacteria in contaminated food or water can result in infection with one of 4 species of the genus *Shigella*, of which *S. sonnei* is the most common species. Certain sexual behaviors increase the risk of infection among some population groups, including men who have sex with men, by direct person-to-person transmission.

?? In 1995, San Bernardino County had an outbreak of 28 cases of *S. sonnei* in a daycare center. The bacteria spread from child to child probably by unwashed hands. Worldwide, 2/3 of known cases is in children under the age of 10 years. In San Bernardino County, 365 (56.5%) of the 646 cases reported between 1995 and 1999 were in children under the age of 10 years. These data reflect in part a greater tendency for children not to wash their hands after using the restroom and to share food. Prevention of infection consequently involves washing hands well after using the restroom and changing diapers.

?? Of 646 County cases during 1995-99, 377 (58.3%) were Hispanic. The rate of shigellosis in 1999 for Hispanic children 1-9 years of age (22.5 cases per 100,000) was 9 times that for children of the same age group identifying with all other racial and ethnic groups (2.4 cases per 100,000), and 6 times that for the whole

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	68	23	23	8	13
Black	11	16	2	2	2
Hispanic	125	69	79	61	43
Asian	1	0	2	0	1
Native Am	0	0	0	0	0
Other /					
Not Specified	42	35	4	12	4
<b>Age Group</b>					
<1	5	4	0	0	0
1-4	94	46	30	24	13
5-9	50	34	25	22	18
10-14	15	9	11	6	3
15-19	12	5	4	4	4
20-24	14	8	7	5	4
25-29	11	7	12	3	8
30-34	15	9	6	4	2
35-39	7	7	8	7	3
40-44	4	4	1	3	3
45-54	12	6	1	3	2
55-64	5	3	0	0	2
?65	3	1	5	2	1
Not Specified	0	0	0	0	0
<b>Total</b>	<b>247</b>	<b>143</b>	<b>110</b>	<b>83</b>	<b>63</b>

**Incidence Rates for Shigellosis in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### *Diseases Transmitted by Sexual Contact*

# AIDS

?? AIDS became a reportable condition in California in 1983. Ninety-seven percent of the 687 California cases diagnosed in 1983, and nearly 9% of the 3,919 cases diagnosed in 1999 have died (through April 2000).

?? In San Bernardino County, 2,684 cases were reported during 1983-April 2000 (cumulative incidence = 162.3 cases per 100,000 population), 55% of which died during this period.

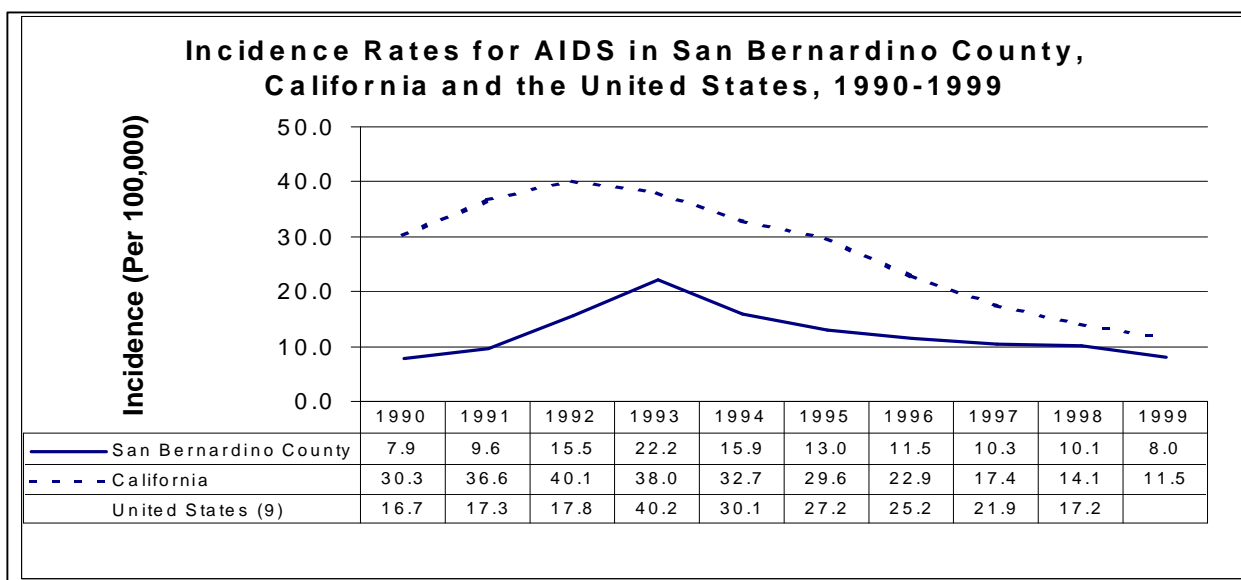
?? San Bernardino County is the 5<sup>th</sup> largest local health jurisdiction in the state by population, but ranks 10<sup>th</sup> among local health jurisdictions in AIDS cases reported through April 2000.

?? From 1995-99, 82% of San Bernardino County cases were male. Among males, the most frequently identified modes of transmission were having sex with another man (59.8%) and injection drug use (16.4%). The most frequently identified modes in females were heterosexual contact (44.6%) and injection drug use (29.8%).

?? The declining incidence of AIDS can be attributed to the development of better treatments for the management of HIV infection and the passage of the epidemic peak in the US.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	113	92	65	58	50
Black	65	61	37	45	25
Hispanic	58	61	71	51	51
Asian	3	1	4	4	1
Native Am	0	3	1	1	0
Other / Not Specified	8	0	0	7	7
<b>Age Group</b>					
<1	1	0	2	0	0
1-4	4	2	0	0	0
5-9	2	1	0	1	0
10-14	2	1	0	0	0
15-19	2	0	0	0	0
20-24	8	5	6	6	5
25-29	31	27	21	12	14
30-34	53	54	41	28	30
35-39	42	53	42	40	26
40-44	45	34	27	28	27
45-54	42	30	29	35	23
55-64	13	9	8	13	5
?65	2	2	2	3	4
Not Specified	0	0	0	0	0
<b>Total</b>	<b>247</b>	<b>218</b>	<b>178</b>	<b>166</b>	<b>134</b>

**HP 2000 Objective = 43 cases per 100,000 population**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Sexual Contact

# Chlamydia

?? Incidence of infection with *Chlamydia trachomatis* in San Bernardino County has climbed substantially since 1996. During 1996-99, incidence of reported cases jumped 59% resulting in a 51% increase in the disease rate. In 1999, it was the most frequently reported disease in San Bernardino County.

?? In 1998, there were more than 604,000 cases nationally, resulting in the highest rate for chlamydial infections since cases were first voluntarily reported to the CDC in the mid-1980s. This rise reflects the expansion of chlamydial screening programs and an increased use of more sensitive tests for diagnosing chlamydial infection. In September 1997, San Bernardino County began using the ligase chain reaction (LCR), for the diagnosis of both chlamydial infections and gonorrhea for specimens obtained from San Bernardino County STD Clinic clients.

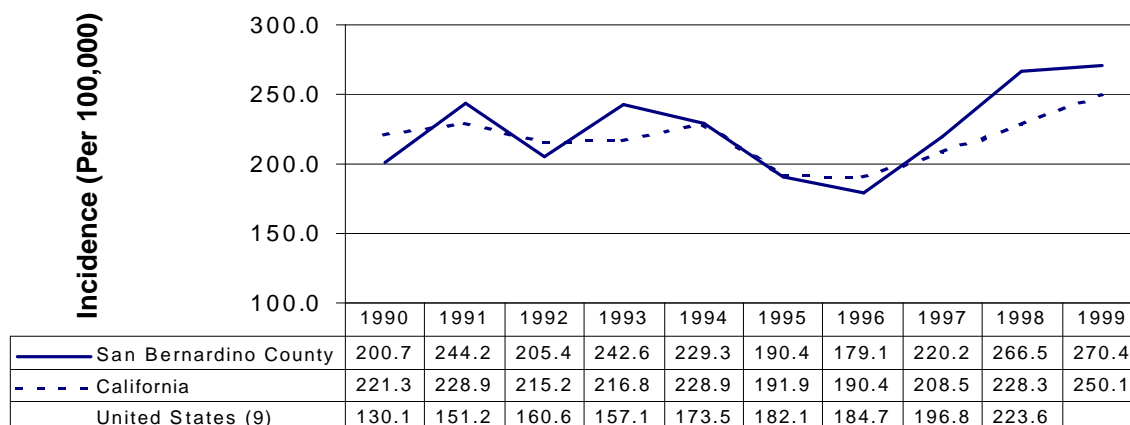
?? The proportion of all San Bernardino County females under the age of 25 years who were diagnosed with a chlamydial infection in 1999 was 0.8%. This proportion meets the Healthy People 2000 Objective established for chlamydial infections.

?? In both 1996 and 1997, 5 cities (San Bernardino, Colton, Rialto, Fontana and Highland) had a greater incidence rate than the average rate for San Bernardino County.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	561	347	447	507	631
Black	423	320	358	486	601
Hispanic	828	995	1438	1913	1026
Asian	20	20	29	33	66
Native Am	2	8	12	5	10
Other / Not Specified	1177	1163	1277	1442	2194
<b>Age Group</b>					
<1	13	2	3	13	6
1-4	2	4	1	1	3
5-9	4	1	0	1	2
10-14	44	52	65	75	58
15-19	1146	1107	1361	1652	1576
20-24	1004	918	1200	1479	1654
25-29	375	385	493	627	673
30-34	209	170	226	277	280
35-39	95	104	117	153	148
40-44	40	50	46	48	82
45-54	36	31	36	40	33
55-64	7	2	3	10	8
≥65	3	4	10	10	4
Not Specified	33	23	0	0	1
<b>Total</b>	<b>3011</b>	<b>2853</b>	<b>3561</b>	<b>4386</b>	<b>4528</b>

**HP 2000 Objective = 5% of females under age 25 years**

**Incidence Rates for Chlamydia in San Bernardino County, California and the United States, 1990-1999**





## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Sexual Contact

# Gonorrhea

?? Sexually transmitted gonococcal infections differ between males and females in course, severity and ease of recognition. Males typically present with urethritis and females with mucopurulent cervicitis, but a small proportion of infections in males and up to 90% of infections in females may occur without symptoms.

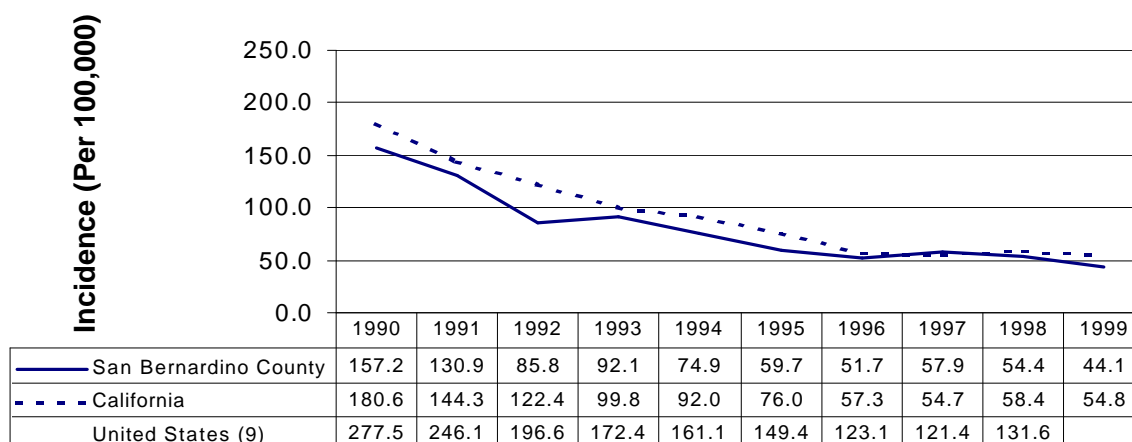
?? In some areas of the US, the rate for non-gonococcal urethritis (NGU) exceeds that for gonorrhea. In San Bernardino County, however, the rate for gonorrhea is 2.4 times that for NGU, perhaps in part due to the improvements made in diagnostic technology and its increasing use in the County since 1997.

?? The rate for San Bernardino County declined 72% during 1990-99. Such major reductions are thought to be related to better HIV prevention practices. Despite this decline, a 14% increase in gonorrhea cases occurred among San Bernardino County residents between 1996 and 1997, marking the only rise in incidence since 1993. A subsequent 17.5% decrease in incidence was observed between 1998 and 1999. Among cases at least 15 years of age, the greatest declines were observed in those aged 25-44 years (32.6%). Among cases with a known racial or ethnic identity, substantial declines in incidence were observed in whites (43.5%) and Hispanics (67.5%), while blacks rose slightly (8.1%). These incidence shifts have changed the proportion of cases that were black from 37.7% in 1998 to 60.9% in 1999.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	166	100	121	115	65
Black	306	244	213	210	227
Hispanic	129	159	229	231	75
Asian	4	0	3	1	5
Native Am	0	2	1	0	1
Other / Not Specified	339	319	369	338	365
<b>Age Group</b>					
<1	0	1	3	0	0
1-4	2	1	1	2	1
5-9	1	0	1	1	0
10-14	12	12	20	14	4
15-19	249	253	255	216	196
20-24	253	231	281	262	257
25-29	175	144	144	179	118
30-34	111	88	92	103	80
35-39	66	40	73	64	39
40-44	31	24	26	31	17
45-54	23	17	27	17	22
55-64	7	5	10	2	3
?65	4	2	3	4	1
Not Specified	10	6	0	0	0
<b>Total</b>	<b>944</b>	<b>824</b>	<b>936</b>	<b>895</b>	<b>738</b>

**HP 2000 Objective: 100 cases per 100,000 popn**

**Incidence Rates for Gonorrhea in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Sexual Contact

# Non-Gonococcal Urethritis

?? Non-gonococcal Urethritis (NGU) is an inflammation and irritation of the urethra that cannot be attributable to a specific organism.

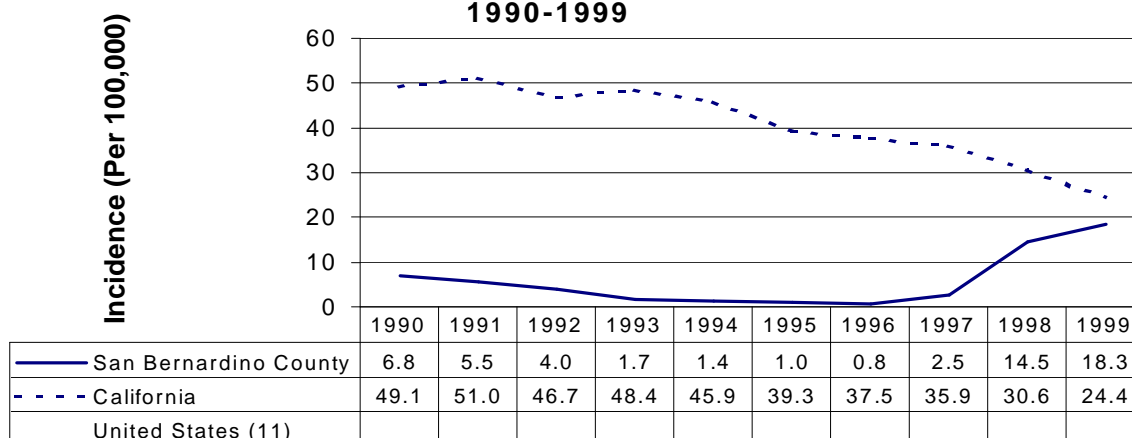
?? Diagnosis of NGU is usually based on the failure to identify *Neisseria gonorrhoeae* in clinical specimens. Although chlamydiae are the etiologic agents most commonly isolated from cases of NGU, other agents may also cause this condition, including *Ureaplasma urealyticum* (responsible for an estimated 10-20% of cases), *Herpesvirus simplex* type 2 and *Trichomonas vaginalis* (both are rarely implicated). In general, NGU is the most common reason that males present to sexually transmitted disease clinics.

?? The recorded incidence of NGU for San Bernardino County increased nearly 20-fold between 1995 and 1999 most likely as a result of better reporting of the disease to the Department of Public Health.

?? In 1999, nearly half of the 155 reported County cases occurred in men from 20-29 years of age. The rate of NGU in black men is 5 times greater, and the rate in Hispanic men is 1.6 times greater, than that for white men. Similarly, the rates in blacks and Hispanics for both gonorrhea (21.4 and 1.9 times, respectively) and chlamydia (5.9 and 2.7 times, respectively) are greater than that for whites.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	1	1	6	29	50
Black	4	1	6	42	40
Hispanic	1	3	3	33	49
Asian	0	0	0	0	0
Native Am	1	0	0	0	1
Other /					
Not Specified	1	1	5	16	15
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	1	0
10-14	0	0	0	0	1
15-19	1	1	3	11	11
20-24	3	2	4	30	38
25-29	2	0	1	23	36
30-34	0	1	1	13	16
35-39	1	1	1	16	20
40-44	0	0	5	5	16
45-54	1	1	5	19	14
55-64	0	0	0	0	3
≥65	0	0	0	2	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>8</b>	<b>6</b>	<b>20</b>	<b>120</b>	<b>155</b>

**Incidence Rates <sup>(14)</sup> for Non-Gonococcal Urethritis in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Sexual Contact

# Pelvic Inflammatory Disease

?? Pelvic Inflammatory Disease (PID) is an ascending vaginal infection that can be caused by numerous bacteria. The most frequent agents, however, are *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.

?? PID is based on clinical evaluation and often goes undiagnosed. Infertility may result if therapy with appropriate antibiotics is not initiated early.

?? Although diagnoses of NGU and chlamydia have risen since 1997, the local incidence of PID decreased from 94 cases in 1998 to 60 cases in 1999.

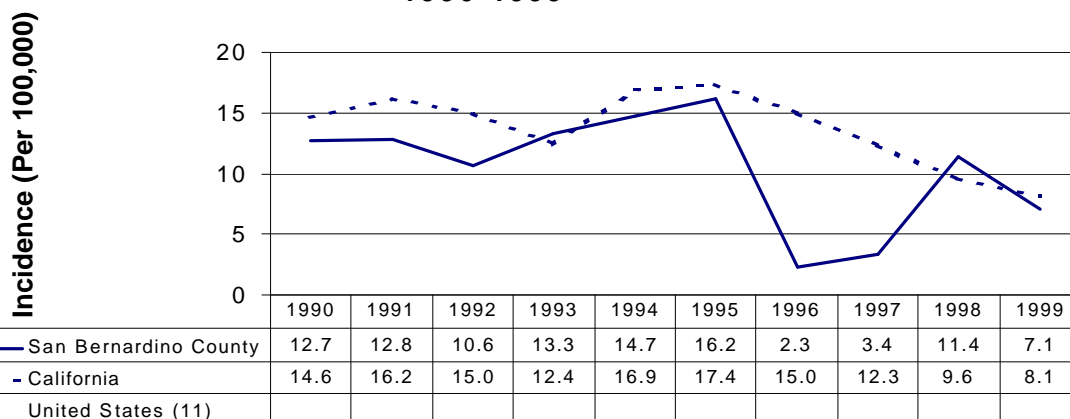
?? The 10-year rate of PID peaked in 1995 and subsequently declined 7-fold in 1996 to its lowest level during the 10-year period. In 1999, the incidence rate rose to 7.3 cases per 100,000 population, of which 75% occurred in women between 15 and 29 years of age.

?? Although it is not possible to measure the rate of hospitalizations or the incidence of initial physician visits made for PID, the rate of reported cases of PID for women aged 15-44 years in San Bernardino County in 1999 was 15.5 cases per 100,000 population.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	58	5	9	13	7
Black	14	6	3	10	3
Hispanic	39	5	10	26	8
Asian	1	1	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	16	1	5	45	42
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	1	0	0	0	0
5-9	0	0	0	0	0
10-14	2	0	0	2	0
15-19	25	2	9	26	17
20-24	36	4	4	26	18
25-29	21	7	5	19	10
30-34	14	0	2	9	5
35-39	11	3	4	7	3
40-44	6	1	2	3	4
45-54	6	1	0	2	3
55-64	1	0	1	0	0
≥65	1	0	0	0	0
Not Specified	4	0	0	0	0
<b>Total</b>	<b>128</b>	<b>18</b>	<b>27</b>	<b>94</b>	<b>60</b>

**HP 2000 Objective = (1) 100 hospitalizations per 100,000 women between 15 and 44 years of age; and (2) 290,000 initial physician visits for PID**

**Incidence Rates <sup>(15)</sup> for Pelvic Inflammatory Disease in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Sexual Contact

# Syphilis, All Stages

?? Syphilis, caused by the spirochete *Treponema pallidum*, is an acute and chronic disease characterized by a primary lesion, a secondary eruption involving skin and mucous membranes, long periods of latency, and late lesions of skin, bone, viscera, the central nervous and cardiovascular systems.

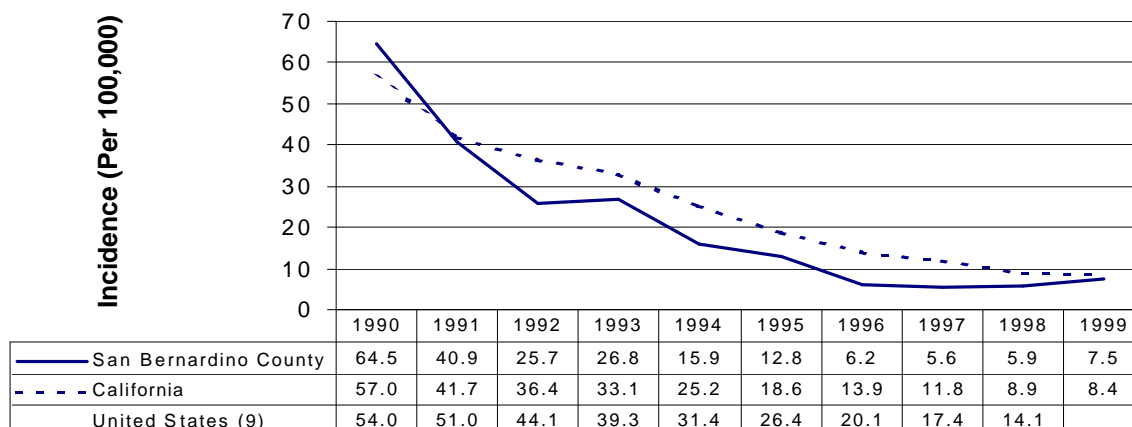
?? Syphilitic lesions associated with primary and secondary syphilis may facilitate the transmission of HIV during unprotected sex.

?? Great progress has been made in reducing the occurrence of syphilis in San Bernardino County during the 1990s. The rate of syphilis at all stages was remarkably decreased 88% from 1990 to 1999 to a level well below the national average. This dramatic reduction is presumably due to the effects of sexual behavior changes related to reduction of HIV transmission.

?? Thirteen (2.1%) cases of congenital syphilis were reported in San Bernardino County during the period 1995-99. Incidence of congenital syphilis peaked during the 1990s in 1993 at 15 cases and has since declined substantially. Only 5 cases were reported since 1996. None was reported in 1997.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	25	7	15	12	26
Black	72	30	15	21	30
Hispanic	73	41	49	41	38
Asian	5	3	2	3	2
Native Am	0	0	1	0	0
Other / Not Specified	27	18	9	18	29
<b>Age Group</b>					
<1	8	1	0	3	1
1-4	1	0	0	0	0
5-9	0	0	0	0	0
10-14	1	0	1	0	0
15-19	9	5	4	6	2
20-24	16	14	12	4	7
25-29	43	19	10	19	11
30-34	41	20	15	12	26
35-39	24	10	16	11	35
40-44	23	12	8	13	13
45-54	17	11	12	17	18
55-64	4	2	6	7	8
?65	14	5	7	3	4
Not Specified	1	0	0	0	0
<b>Total</b>	<b>202</b>	<b>99</b>	<b>91</b>	<b>95</b>	<b>125</b>

**Incidence Rates for Syphilis (All Stages) in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### *Diseases Transmitted by Sexual Contact*

# Syphilis, Primary/Secondary

?? A person with syphilis is communicable when lesions of primary and secondary syphilis are present. In addition to sexual contact, syphilis may be spread from a woman to her unborn child. The end of infectious early syphilis has been defined in the US as one year following infection. Lesions associated with syphilis infection may increase the likelihood of transmission of HIV during sexual encounters.

?? During 1990-98, the US rate for primary and secondary syphilis declined 86% to the lowest level since reporting began in 1941. San Bernardino County has mirrored such progress.

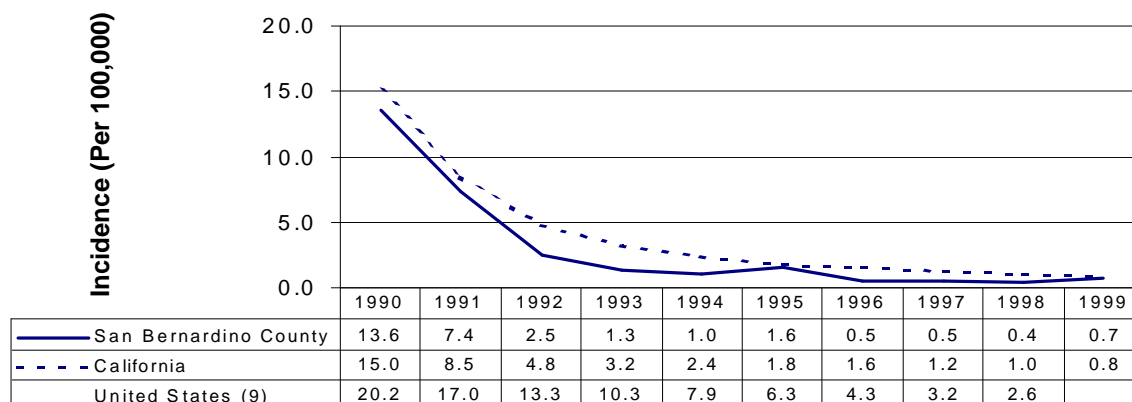
?? Approximately 10% of syphilis cases (all stages) reported in San Bernardino County during 1999 were diagnosed in the primary or secondary stages. Of these, 5 (41.7%) were in the primary stage.

?? Of San Bernardino County cases reported in 1999, 61.5% were white and 52% were male. The proportion of black cases declined the most among race groups from 42.3% in 1995 to 8.3% in 1999. During this period, 49.2% of primary and secondary cases occurred in those ages 20-34 years.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	8	5	2	1	8
Black	11	2	1	4	1
Hispanic	5	1	4	2	1
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	2	0	1	0	2
<b>Age Group</b>					
<1	1	0	0	0	0
1-4	1	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	1	0	0
15-19	4	1	0	1	1
20-24	3	0	1	1	3
25-29	6	2	2	2	1
30-34	4	1	1	2	1
35-39	3	1	1	0	2
40-44	2	3	1	1	4
45-54	1	0	1	0	0
55-64	0	0	0	0	0
≥65	1	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>26</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>12</b>

**HP 2000 Objective: 4 cases per 100,000 popn**

**Incidence Rates for Primary & Secondary Syphilis in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Sexual Contact

# Syphilis, Early Latent

?? Although acute syphilitic meningitis may occur at any time in secondary or early latent syphilis, death or serious disability rarely occurs during early stages of latency.

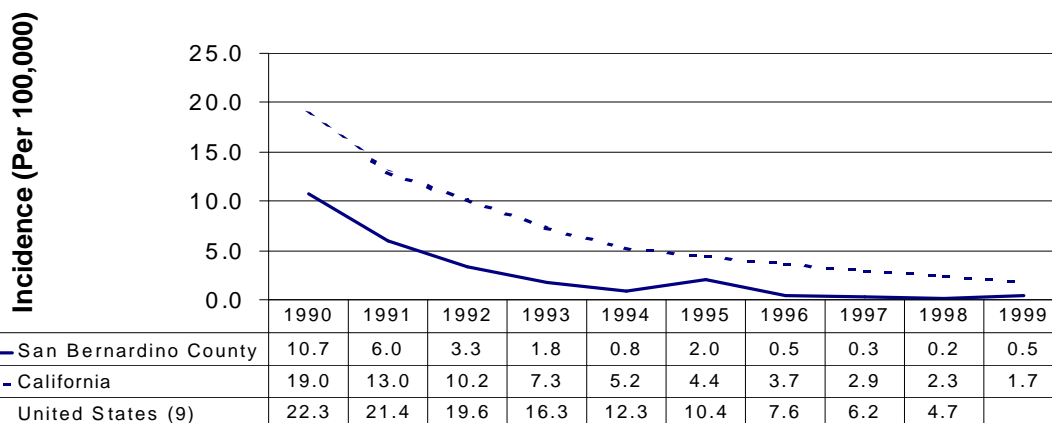
?? Incidence of early latent syphilis in San Bernardino County rose 7-fold from 21 cases in 1982 to peak at 154 cases in 1990. It has since plummeted to fewer than 10 cases in 1999. The most notable decline occurred in blacks and Hispanics and all in the age group 25-29 years.

?? In San Bernardino County, the rate of early latent syphilis declined 95% from 10.7 cases per 100,000 people in 1995 to 0.5 cases per 100,000 people in 1999. A similar trend was observed for the California rate.

?? During the period 1995-98, 65.3% of the cases reported in San Bernardino County were male, 67.2% were aged 20-34 years, and 70.7% were Hispanic or black. Incidence has been most reduced in men aged 20-34 years during this period.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	5	1	2	1	2
Black	13	2	0	1	0
Hispanic	13	4	3	2	3
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	1	1	0	0	4
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	1	0	1	0	0
20-24	4	2	0	0	1
25-29	10	3	1	2	1
30-34	5	2	2	1	5
35-39	5	0	0	0	2
40-44	3	1	0	1	0
45-54	3	0	0	0	0
55-64	0	0	1	0	0
?65	1	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>32</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>9</b>

**Incidence Rates for Early Latent Syphilis in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Respiratory Secretions

# Measles (Rubeola)

?? Measles is one of the most highly communicable infectious diseases.

?? In San Bernardino County, and throughout the US, a measles epidemic occurred during 1989-91. More than 55,000 cases were reported nationally and 166 deaths were associated with these illnesses. San Bernardino County reported 2,244 cases representing 4% of the national and 13% of the state total, as well as 17 measles-associated deaths, representing 10% of the national and 24% of the state total. In 1990, the peak year of the outbreak, the incidence rate of infection in San Bernardino County was 4 times that for California and 6 times that for the US. The majority of outbreak cases occurred in unimmunized children. Of cases reported in this county, 55% were not immunized against measles.

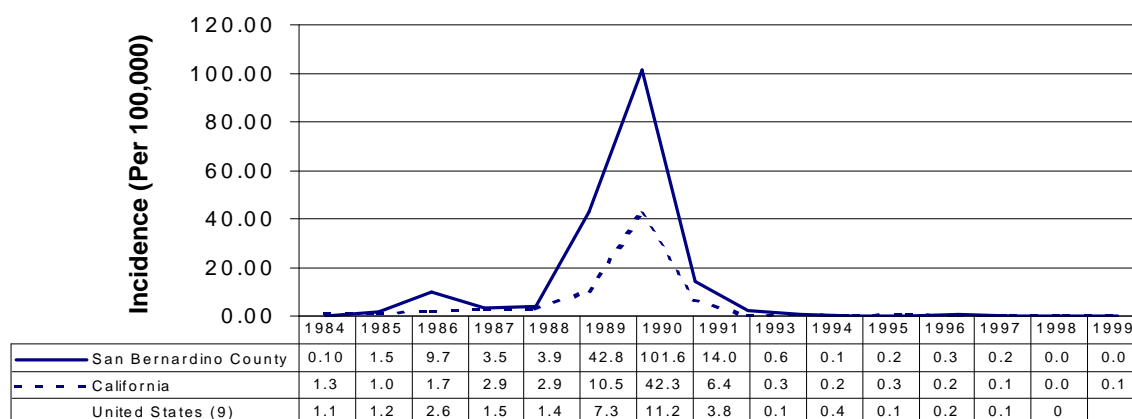
?? The San Bernardino County Immunization Program implemented a County-wide immunization registry in 1994 that allows it to more accurately track immunization levels. A recent retrospective survey indicated that in the last 4 years, the proportion of all children 24 months of age immunized with 4 DTP, 3 Polio and 1 MMR increased from 42.9% in 1996 (births in 1991-92) to 62.8% in 1999 (births in 1994-95).

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	2	3	2	0	0
Black	0	0	0	0	0
Hispanic	1	2	1	0	0
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	0	0	0	0	0
<b>Age Group</b>					
<1	0	2	0	0	0
1-4	1	0	0	0	0
5-9	0	0	2	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	1	0	0	0
30-34	0	1	1	0	0
35-39	2	1	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	0
?65	0	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>0</b>

?? No measles cases have been reported in San Bernardino County since 1997, which meets the HP 2000 Objective for measles.

HP 2000 Objective = 0 cases

**Incidence Rates for Measles (Rubeola) in San Bernardino County, California and the United States, 1986-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Respiratory Secretions

# Meningococcal Disease

?? Meningococcal disease is caused by *Neisseria meningitidis*, which up to 10% of certain world populations may asymptotically carry nasopharyngeally. A very small proportion of those colonized progresses to invasive disease.

?? *N. meningitidis* has become the leading cause of bacterial meningitis in the US since the widespread use of the Hib vaccine in early childhood and the subsequently dramatic decline in meningitis caused by *Haemophilus influenzae* type b.

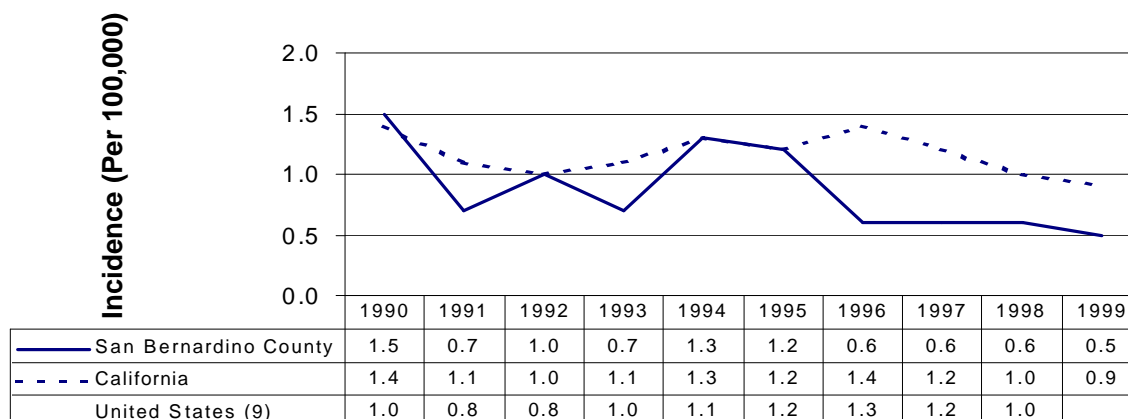
?? Meningococcal disease is primarily a disease of small children. However, it commonly occurs in older children and young adults. This is particularly the case in those brought together under crowded living conditions such as in barracks and college dormitories. In 1999, 7 of 8 (88%) San Bernardino County cases occurred in those under 20 years of age.

?? With earlier diagnoses and modern therapy, case-fatality rates have declined nationally from previous levels greater than 50%. In San Bernardino County, 2 deaths occurred in 1997-99 resulting in a case-fatality rate of 7.4%.

?? Of County diagnoses reported in 1998-99, 5 were based on clinical findings and blood specimens only, 6 were based on CSF specimens only, and 6 were based on both blood and CSF specimens.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	8	4	0	1	4
Black	0	1	4	0	3
Hispanic	9	3	4	7	0
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	2	1	2	1	1
<b>Age Group</b>					
<1	4	0	3	5	2
1-4	4	2	0	1	1
5-9	3	2	3	2	1
10-14	1	1	0	0	1
15-19	4	2	0	0	2
20-24	1	0	0	1	0
25-29	0	0	2	0	0
30-34	2	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	1	0	0
45-54	0	1	0	0	0
55-64	0	0	0	0	1
≥65	0	1	1	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>19</b>	<b>9</b>	<b>10</b>	<b>9</b>	<b>8</b>

**Incidence Rates for Meningococcal Disease in San Bernardino County, California and the United States, 1990-1999**





## San Bernardino County Reported Communicable Diseases 1999

### *Diseases Transmitted by Respiratory Secretions*

# Meningitis, Viral

?? In the US, a number of viruses are implicated as etiologic agents of viral meningitis, including enteroviruses, coxsackieviruses, echoviruses and varicella viruses.

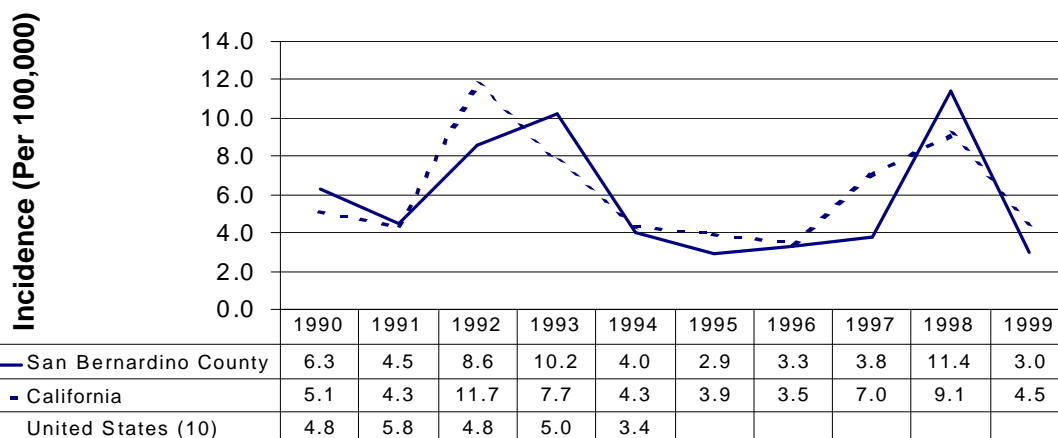
?? San Bernardino County experienced a dramatic 3-fold rise in the number of cases between 1997 and 1998. The burden of disease during the 1998 epidemic was not uniform in all race groups. In fact, the proportion of cases that were Hispanic climbed from 29% in 1997 to 45% in 1998, while the proportion of cases occurring in the other racial/ethnic groups declined or remained virtually unchanged.

?? Although 20 (11%) cases were under 1 year of age, the majority occurred in school-aged children. Nearly one-third (n=54) of 1998 cases were children ages 5-9 years, a proportion considerably higher than in previous years. In 1997, 8 (13%) cases were under 1 year of age and only 9 (15%) cases were 5-9 years of age.

?? During 1995-99 the average annual case rate for viral meningitis was similar for both San Bernardino County (4.9 per 100,000) and California (5.6 per 100,000). The case rate for this disease in the County is 7 times that for meningococcal disease and 4.5 times that for meningitis of other bacterial etiology.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	22	9	31	51	21
Black	6	7	6	12	5
Hispanic	9	19	18	84	16
Asian	1	1	0	5	2
Native Am	0	0	0	0	0
Other / Not Specified	8	17	7	35	6
<b>Age Group</b>					
<1	8	9	8	20	8
1-4	3	4	4	18	4
5-9	6	8	9	54	7
10-14	4	3	6	25	6
15-19	4	7	4	12	4
20-24	3	1	3	7	2
25-29	2	6	2	16	5
30-34	7	9	5	7	3
35-39	4	5	4	7	4
40-44	3	0	2	7	2
45-54	0	1	9	9	5
55-64	1	0	3	1	0
?65	1	0	3	4	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>46</b>	<b>53</b>	<b>62</b>	<b>187</b>	<b>50</b>

**Incidence Rates for Viral Meningitis in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Respiratory Secretions

# Mumps

?? The live-virus mumps vaccine was first licensed for use in the US in 1967. Since then, the incidence of mumps nationally has declined dramatically from 152,209 cases reported in 1968, the initial year of national mumps surveillance, to a mere 666 cases reported 30 years later.

?? Two doses of the combined MMR vaccine are recommended to ensure immunity to all three viruses that respectively cause measles, mumps and rubella, although the second dose is given primarily to increase protection against measles. The first dose should be administered at 12-15 months of age and the second dose prior to kindergarten entrance at 4-6 years of age.

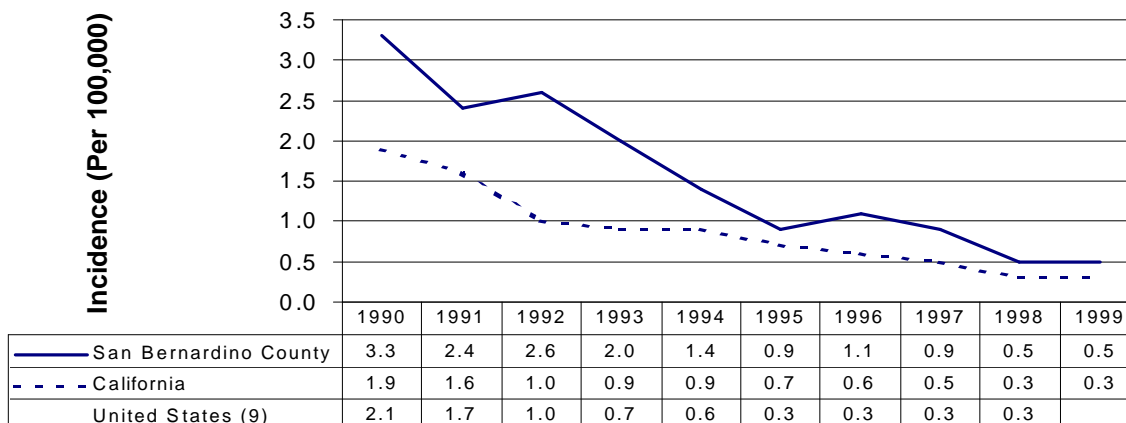
?? Mumps occurs primarily in school-aged children. In San Bernardino County, 15 cases (24.6%) were 15 years of age or older during 1995-99.

?? San Bernardino County has made progress in the last 10 years in reducing the incidence of mumps, approaching the rates observed for California and the US. The excess in rates between San Bernardino County and California decreased from 1.4 cases per 100,000 population in 1990 to 0.2 cases per 100,000 population in 1998.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	7	3	2	1	1
Black	0	1	1	0	0
Hispanic	5	8	6	4	6
Asian	1	0	2	0	1
Native Am	0	0	0	0	0
Other / Not Specified	1	5	3	3	0
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	1	1	3	1	0
5-9	6	6	3	4	3
10-14	4	7	1	2	4
15-19	0	0	0	0	0
20-24	0	1	1	0	0
25-29	0	0	1	0	0
30-34	2	1	1	0	0
35-39	0	1	3	0	0
40-44	1	0	0	1	0
45-54	0	0	1	0	1
55-64	0	0	0	0	0
?65	0	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>14</b>	<b>17</b>	<b>14</b>	<b>8</b>	<b>8</b>

HP 2000 Objective: 500 cases per year

**Incidence Rates for Mumps in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Respiratory Secretions

# Pertussis

?? Pertussis, also known as whooping cough due to the classic paroxysmal pattern of coughing and wheezing observed in patients, is caused by the bacterium *Bordatella pertussis*.

?? Pertussis is an endemic disease in the US with outbreaks occurring periodically. Although an overall decrease in incidence has been observed nationally over the past several decades, primarily in communities with a well-established immunization program, reported cases have increased recently. Nationally, pertussis increased from 2,719 cases in 1991 to 7,405 cases in 1998. An annual average of 5,613 cases was reported nationally during this period.

?? While San Bernardino County remained below the US rate during the 1990s, California recorded a rate greater than that for the US in 3 of the 9 years from 1991-98 (1992, 1994, and 1998).

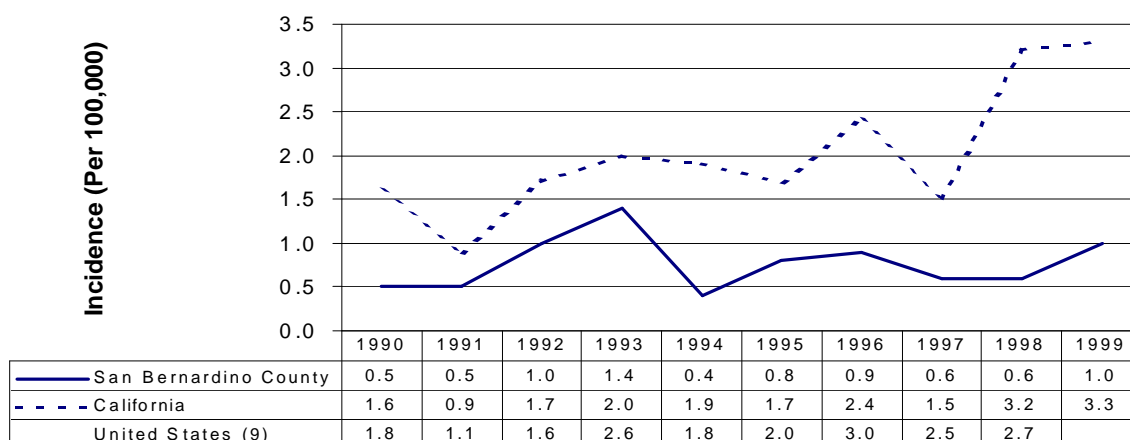
?? The highest incidence ever recorded in California was 21,344 cases in 1941. In 1999, 95% fewer cases (n=1,109) were reported in California.

?? During 1995-99, most (45 of 61, 74%) cases in San Bernardino County were under 1 year of age. In 1999, most (12 of 16, 75%) were Hispanic.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	6	7	2	4	3
Black	1	2	1	1	0
Hispanic	5	4	4	4	12
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other /					
Not Specified	0	1	2	1	1
<b>Age Group</b>					
<1	8	9	6	8	14
1-4	3	3	3	1	0
5-9	0	0	0	0	1
10-14	0	2	0	1	1
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	1	0	0	0	0
?65	0	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>12</b>	<b>14</b>	<b>9</b>	<b>10</b>	<b>16</b>

HP 2000 Objective: 1,000 cases per year

**Incidence Rates for Pertussis in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### Diseases Transmitted by Respiratory Secretions

# Rubella

?? The prevention of rubella, also called German measles, in children and adults by immunization is important particularly because of the risk of developmental anomalies in unborn children to mothers with the disease. Congenital rubella syndrome (CRS) is detected in some 90% of infants born to mothers infected with rubella during the first trimester of pregnancy. The risk for CRS declines when exposure occurs later in the pregnancy.

?? Up to 50% of rubella infections may be subclinical.

?? Rubella must be clinically differentiated from measles, scarlet fever and other rash illnesses and such clinical diagnoses may be inaccurate. The only reliable means for detecting acute infection is by laboratory confirmation.

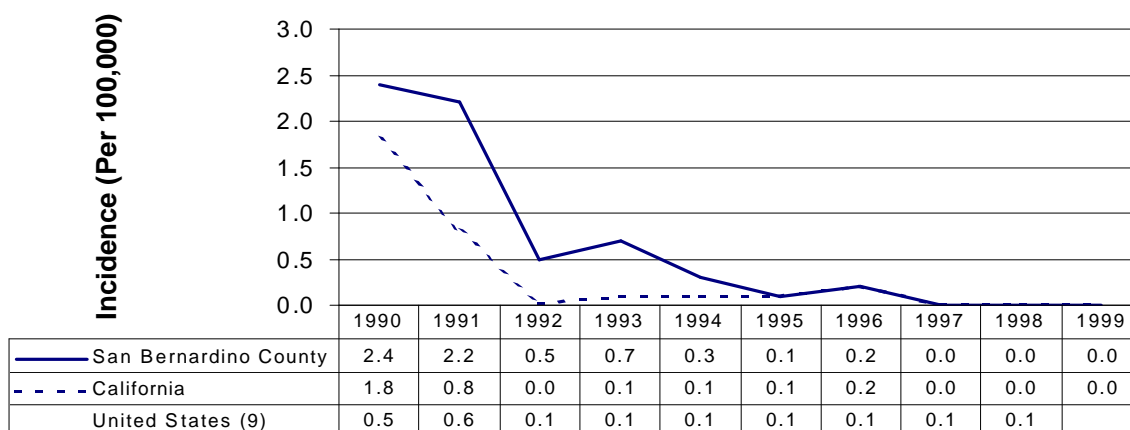
?? The incidence of rubella increased substantially during the measles epidemic during 1989-91 in association with children not immunized with the MMR vaccine.

?? No cases of rubella have been reported in San Bernardino County since 1996, which meets the HP 2000 Objective established for this disease.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnic</b>					
White	2	2	0	0	0
Black	0	0	0	0	0
Hispanic	0	0	0	0	0
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other /					
Not Specified	0	1	0	0	0
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	1	2	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	1	0	0	0
20-24	0	0	0	0	0
25-29	1	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	0
?65	0	0	0	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>

HP 2000 Objective = 0 cases

**Incidence Rates for Rubella in San Bernardino County, California and the United States, 1990-1999**



## San Bernardino County Reported Communicable Diseases 1999

### *Diseases Transmitted by Respiratory Secretions*

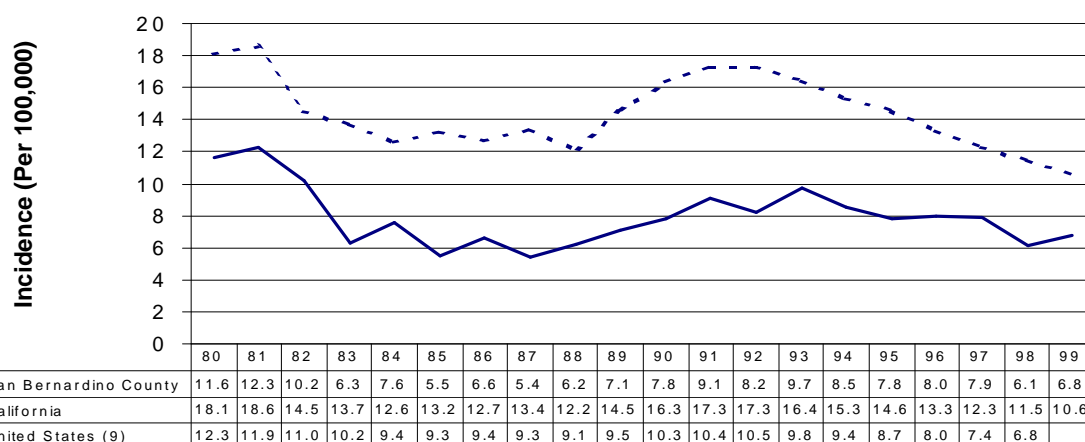
# Tuberculosis

- ?? Although TB may occur anywhere in the body, 81% of County cases from 1993-99 were pulmonary. In general, only pulmonary and laryngeal TB is considered communicable.
- ?? In 1998, San Bernardino County reported more cases than 18 states and had a TB rate greater than 30 states. Incidence peaked in 1993 at 151 cases, a 136% increase from 64 cases reported in 1987, when the TB rate was lowest. Since 1993, incidence declined 25%.
- ?? The burden of TB is greatest in racial and ethnic minority populations. In 1999, non-Hispanic whites made up 54% of the total population but accounted for only 13% of TB cases. Conversely, Asians accounted for 5% of the total population and 32% of TB cases. From 1993-99, 92% of Asian cases were born outside the US. White males and white females are the only population groups that surpassed the HP 2000 Objective in 1999.
- ?? The proportion of cases born outside the US rose from 33% in 1993 to 57% in 1999.
- ?? Directly Observed Therapy (DOT) is the most effective means for ensuring completion of therapy and preventing drug resistance. Of 1997 cases, 72% were initiated on DOT.
- ?? California is within reach of its Year 2000 Objective of 10 cases per 100,000 population. San Bernardino County has already met the goal established for California.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	12	24	22	18	15
Black	23	14	12	13	17
Hispanic	65	60	60	44	45
Asian	22	28	33	26	36
Native Am	1	2	1	0	0
Other / Not Specified	0	0	0	0	0
<b>Age Group</b>					
<1	2	3	6	0	1
1-4	15	13	7	7	4
5-9	10	8	3	1	2
10-14	3	3	3	2	0
15-19	1	4	6	5	3
20-24	10	5	10	7	3
25-29	8	8	10	5	10
30-34	9	14	11	11	8
35-39	12	11	10	9	7
40-44	8	11	14	9	10
45-54	16	16	14	13	19
55-64	9	13	11	9	18
?65	20	19	23	23	28
Not Specified	0	0	0	0	0
<b>Total</b>	<b>123</b>	<b>128</b>	<b>128</b>	<b>101</b>	<b>113</b>

**HP 2000 Objective: 3.5 cases per 100,000 population**

**Incidence Rates for Tuberculosis in San Bernardino County, California and the United States, 1980-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Associated with Environmental Factors

# Coccidioidomycosis

?? Coccidioidomycosis, caused by a fungus that grows in soil, exists in two forms. Primary disease is an acute self-limiting disease involving only respiratory organs. Progressive coccidioidomycosis manifests as a chronic granulomatous disease that may involve nearly any part of the body.

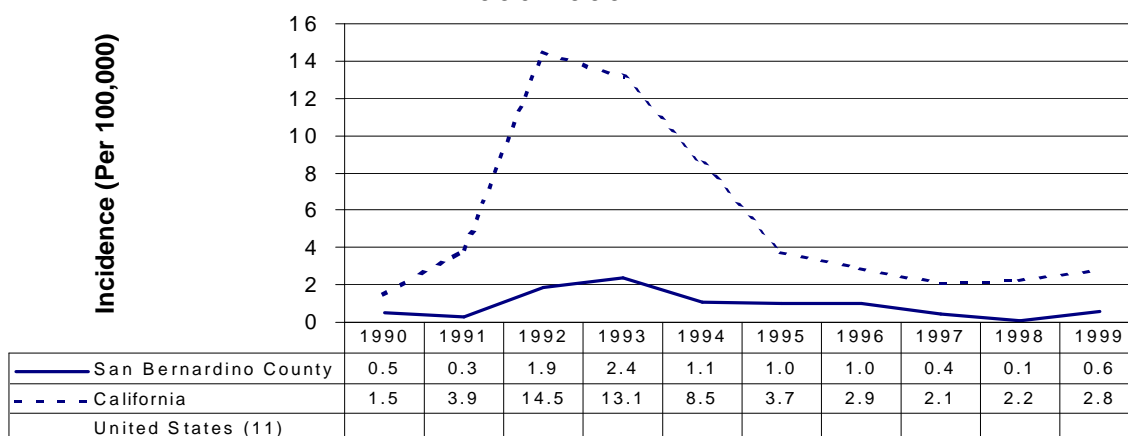
?? The disease is communicable neither person-to-person nor from animals to humans, except in extraordinary circumstances. People typically acquire the disease by inhaling an infective form of the fungus from soil.

?? In the US, primary infections are common only in arid and semiarid areas from California to Texas. California experienced an epidemic in the early 1990s, with the greatest increase in cases identified in Kern County. The disease is highly endemic in the San Joaquin Valley and endemic throughout San Bernardino County. Since 1995, there have been 50 cases in San Bernardino County. Twenty-nine (58%) cases resided in the valley, 19 (38%) in the high desert, and 2 (4%) in the mountain regions.

?? During the 5-year period 1995-99, males accounted for 34 (68%) of cases reported in San Bernardino County, and 43 (86%) of cases were adults age 30 years or older. None were reported in children under 10 years of age.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	4	7	3	0	1
Black	2	3	1	0	2
Hispanic	6	3	2	1	1
Asian	0	1	0	0	0
Native Am	1	0	0	0	0
Other / Not Specified	2	2	1	1	6
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	1	0	0	0
15-19	0	0	1	0	0
20-24	1	1	0	0	0
25-29	1	1	1	0	0
30-34	2	0	1	0	1
35-39	2	3	2	0	1
40-44	2	2	0	1	1
45-54	4	3	1	0	2
55-64	3	1	0	0	4
≥65	0	4	1	1	1
Not Specified	0	0	0	0	0
<b>Total</b>	<b>15</b>	<b>16</b>	<b>7</b>	<b>2</b>	<b>10</b>

**Incidence Rates for Coccidioidomycosis in San Bernardino County, California and the United States, 1990-1999**



# San Bernardino County Reported Communicable Diseases 1999

## Diseases Associated with Environmental Factors

# Legionellosis

?? Legionellosis is caused by bacteria of the genus *Legionella*. These organisms have been isolated from water in numerous devices such as showers, cooling towers and hot tubs, and may survive in tap water for several months. Humans become infected by inhaling airborne water droplets containing infective organisms.

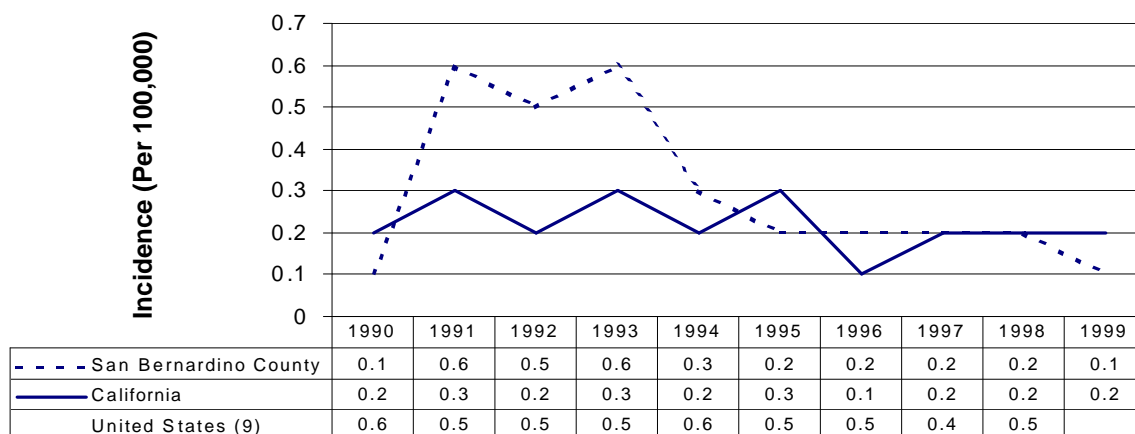
?? The disease received its name from an outbreak, during which it was first identified, at a meeting of Legionnaires in a Philadelphia hotel in 1976. The earliest documented case, however, occurred in 1947.

?? Legionellosis is not a common disease. The rate of occurrence in San Bernardino County (range = 0.1-0.6 cases per 100,000 population since 1995) is similar to that of both California and the U.S.

?? Legionellosis is most frequently diagnosed in the elderly and others with compromised immune systems. Nine (64%) of the 14 cases reported in San Bernardino County since 1995 were 55 years of age or older.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	2	1	1	0	2
Black	0	0	1	0	0
Hispanic	0	1	0	1	0
Asian	1	0	0	0	0
Native Am	0	0	0	0	0
Other /					
Not Specified	0	1	1	2	0
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	0	1	0	0
30-34	0	0	0	0	0
35-39	1	1	1	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	1
55-64	0	1	0	2	0
?65	2	1	1	1	1
Not Specified	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

**Incidence Rates for Legionellosis in San Bernardino County, California and the United States, 1990-1999**



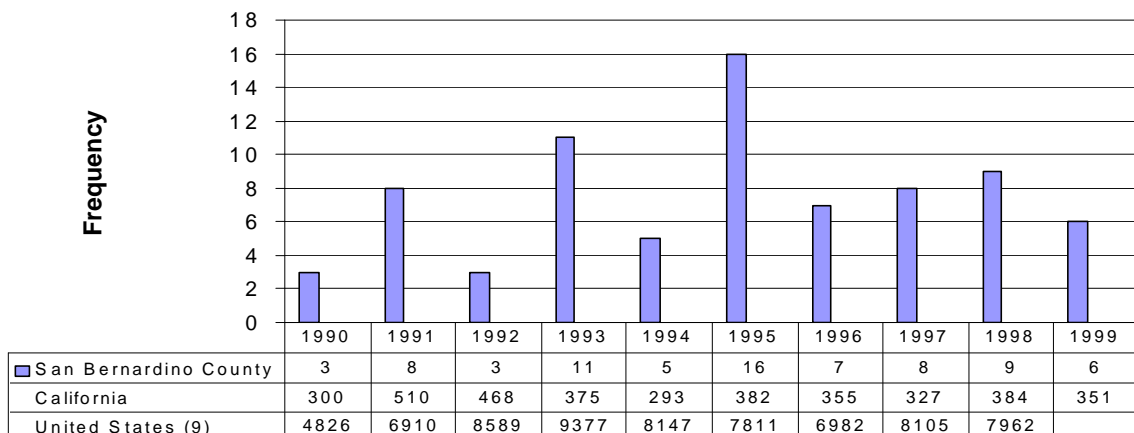
## San Bernardino County Reported Communicable Diseases 1999

### *Diseases Transmitted by Mammalian Vector*

# Rabies, Animal

- ?? During 1990-99, in San Bernardino County, all 76 animals testing positive for the rabies virus have been bats, with the exception of one cat in 1993.
- ?? In the US, there were 27 human cases of rabies between 1990 and 1998. Of these 27 cases, 20 (74%) were linked to bat-variant strains of rabies. In only one of these cases was there a history of a known bite from a bat. Insectivorous bats have small, fine, sharp teeth and may not leave an obvious injury after contact with an individual, especially one who is sleeping or otherwise incapacitated. (Centers for Disease Control and Prevention, 1999).
- ?? In the US, wild animals accounted for 93% of the 7,962 animal rabies cases in 1998, with raccoons (44%), skunks (28.5%) and bats (12.5%) having the largest numbers of cases. In California, 351 rabid animals were reported in 1999, of which 183 (52%) were skunks and 152 (43%) were bats. Bats are the predominant rabid species in Southern California.
- ?? In 1998, the most common domestic animals reported with rabies in the US were cats (282), cows (116), dogs (113), and equids (82). The occurrence of rabies in cats was usually associated with epizootics in raccoons. In 1998, in Texas, cases in dogs were found in areas with epizootics in foxes and coyotes. One ferret was reported as rabid in 1998 in the US. The last rabid dog in San Bernardino County occurred in July 1948. (San Bernardino County Department of Public Health, Preventive Veterinary Services, 1998).
- ?? In the US, peak incidence in some species of rabid animals have been noted during spring and late summer with larger numbers of cases occurring in raccoons and skunks. Incidence of rabies in bats is largest in August. More cats have tested positive for the rabies virus in the month of June. No seasonal peaks of rabies are usually noted for foxes, dogs or cattle.
- ?? Prevention of infection in humans begins with education about animal bites and the importance of not handling wild animals. Rabies vaccination programs for dogs and cats have been successful in dramatically decreasing the number of human and domestic animal rabies cases.
- ?? In San Bernardino County, 12 individuals were reported to have received post exposure prophylaxis to prevent rabies infection during 1998-99. Most of these received treatment as a result of contact with a bat.

**Incidence of Animal Rabies in San Bernardino County,  
1990-1999**





# San Bernardino County Reported Communicable Diseases 1999

## Diseases Transmitted by Arthropod Vector

# Mal a r i a

?? Malaria is a parasitic disease which humans acquire from the bite of an infective female *Anopheles* mosquito. Because mosquitoes of this genus are essential to the life cycle of the parasite, person-to-person transmission cannot otherwise occur except through such exposure as a blood transfusion under appropriate conditions.

?? Travelers who may be exposed to mosquitoes in countries where malaria is common should use protective measures against mosquito bites. These travelers should also consult a healthcare professional about the use of chemoprophylaxis.

?? Malaria has been reduced substantially in regions with temperate climates due to intensive vector control efforts. County programs for mosquito control have been in place for more than 20 years.

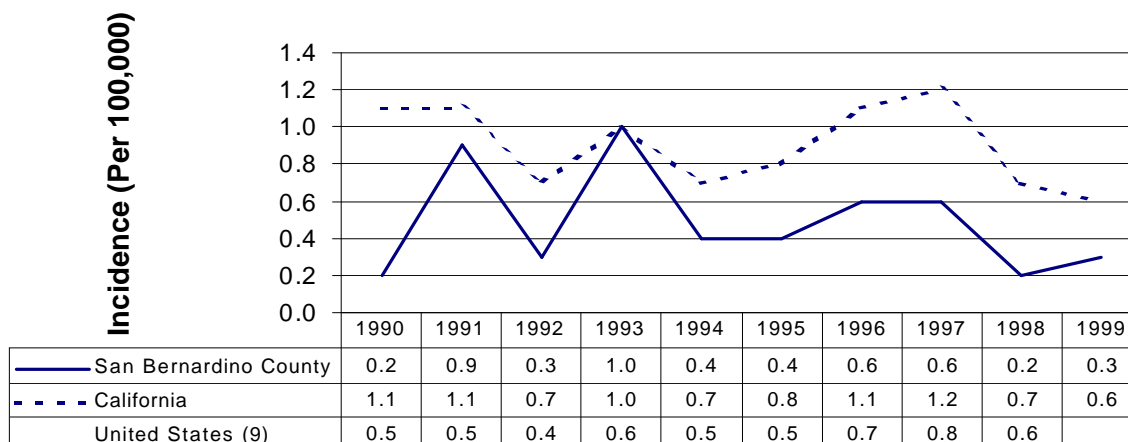
?? None of the 33 cases reported in San Bernardino County since 1995 was acquired indigenously. Fourteen (42%) of the cases reported from 1995-99 were in black individuals who originated from or traveled to Africa. Of the 8 cases reported during 1998-99, half were exposed in Africa and half in Latin America.

?? Of County cases during 1998-99, 4 were caused by *Plasmodium vivax*, 3 were caused by *P. falciparum* and 1 was caused by *P. malariae*.

	San Bernardino County				
	1995	1996	1997	1998	1999
<b>Race/Ethnicity</b>					
White	1	1	2	1	1
Black	4	5	3	1	1
Hispanic	0	0	0	1	3
Asian	0	2	1	0	0
Native Am	0	0	0	0	0
Other /					
Not Specified	1	2	3	0	0
<b>Age Group</b>					
<1	0	0	0	0	0
1-4	2	3	0	0	0
5-9	0	1	0	0	1
10-14	0	1	1	0	0
15-19	0	0	0	1	1
20-24	0	0	1	1	1
25-29	1	0	0	0	1
30-34	1	1	3	1	0
35-39	1	2	0	0	0
40-44	0	0	2	0	1
45-54	1	1	1	0	0
55-64	0	0	0	0	0
?65	0	1	1	0	0
Not Specified	0	0	0	0	0
<b>Total</b>	<b>6</b>	<b>10</b>	<b>9</b>	<b>3</b>	<b>5</b>

**HP 2000 Objective = 750 cases among international travelers**

**Incidence Rates for Malaria in San Bernardino County, California and the United States, 1990-1999**





## Section 3

**Special Disease Focus:** *Epidemiological Trends of Reported Tuberculosis in San Bernardino County, 1980-1999.*

Prepared by Scott Nabity, MPH, Tuberculosis Control Program

**See page 67 for footnotes, Figures 1-10.**



## Data Sources and Methods

Suspect and confirmed cases of tuberculosis were reported to the San Bernardino County Department of Public Health by community physicians, hospitals, and schools in accordance with Title 17, Section 2500 of the California Code of Regulations (CCR) and laboratories in accordance with Section 2505 of the CCR (see Appendix C). Mycobacterial diseases other than those caused by *M. tuberculosis* complex mycobacteria are not reportable conditions under the CCR and therefore are not counted in tuberculosis morbidity statistics. Each tuberculosis case meeting the case surveillance definition and verified by Tuberculosis Control Program staff is reported to the California Department of Health Services Tuberculosis Control Branch.

Population estimate (1980-96) and projection (1997-99) data for San Bernardino County by race, gender and age group were obtained from the California Department of Finance Demographic Research Unit and tabulated by the San Bernardino County Department of Public Health, Program Analysis and Statistics. Average annual incidence rates for the period 1986-99 were calculated using population data for the mid-interval year, calculated as the average of 1992 and 1993 population data, as the denominator value. Rates calculated for Native American populations may be unstable due to the small number of cases reported for them during 1993-99. They should therefore be interpreted carefully.

Race and ethnicity were collected as separate variables. Individuals who indicated their ethnicity to be Hispanic were categorized as Hispanic regardless of race. Population attributable risk (PAR) is a measure of excess disease in the population that is attributable to the exposure examined, and is calculated by subtracting the incidence of disease for the population not possessing the characteristic of interest from that for the total population. Population attributable risk percent (PAR%), then, expresses the proportion of disease in the population that is attributable to the factors associated with the population characteristic examined.<sup>1</sup>

## Results

### *Incidence of Tuberculosis, 1980-99*

Incidence of tuberculosis dipped below 100 cases in 1982, a level under which it remained for several years until 1990, when incidence rose to 112 cases. During the last 20 years, incidence was lowest in 1987 (5.4 cases per 100,000) and 1985 (5.5 cases per 100,000). Incidence of tuberculosis in San Bernardino County was consistently well below that for both California and the US throughout most of the 1980s. It then continued to be approximately the same as the US rate and nearly half the California rate from 1993 through 1999 (see Tuberculosis, page 39). Incidence peaked locally in 1993 at 151 confirmed cases (9.7 cases per 100,000), a 156% increase from 1987, while the rate for California peaked 2 years earlier (17.3 cases per 100,000 in both 1991 and 1992) and the US peaked 1 year earlier (10.5 cases per 100,000 in 1992). It is important to note that the local and national rise in tuberculosis during the late 1980s and early 1990s has been attributed to increased incidence in populations such as persons born in countries where tuberculosis is common, and occurred in temporal association with the local and national epidemics of HIV/AIDS.

The peak incidence experienced in 1993 in San Bernardino County appears to have been the result of an increase in every racial and ethnic group, most notably however in Asians and

blacks. In 1998, the incidence of tuberculosis dropped to a post-resurgence low of 101 cases (6.1 cases per 100,000), and in 1999 rose slightly to 113 cases (6.7 cases per 100,000), representing an overall decrease of 25% since 1993. This small rise was not statistically significant. Incidence observed in both 1998 and 1999, however, is statistically significantly different from that recorded in 1993, when incidence peaked in San Bernardino County, but not significantly different from that of any other year during this period.

The rate of tuberculosis in San Bernardino County (6.1 cases per 100,000) in 1998, the last year for which data were available, was less than that for both California (11.5 cases per 100,000) and the US (6.8 cases per 100,000) in the same year, ranking San Bernardino County 29<sup>th</sup> out of the 61 reporting jurisdictions in California for the rate of tuberculosis.<sup>2</sup> Also in 1998, San Bernardino County reported more cases than 18 states and recorded a rate of tuberculosis greater than that for 30 states.<sup>3</sup> Although incidence of tuberculosis in 1999 was less than the year 2000 California objective (Department of Health Services Tuberculosis Control Branch) set at 10.0 cases per 100,000 population, San Bernardino County, as well as California and the US, has yet to meet the Healthy People 2000 national objective for tuberculosis incidence established at 3.5 cases per 100,000 population (Table 1). The white population, however, has achieved an exceptionally reduced burden of tuberculosis. Whereas all but 3 San Bernardino County population groups had yet meet the 2000 California objective in 1999, white males (2.4 cases per 100,000) and females (0.9 cases per 100,000) were the only ones with lower rates than the year 2000 US goal in 1999.

Table 1. Incidence of tuberculosis by race and gender, San Bernardino County, 1993-1999.

Population Group <sup>a</sup>	Incidence (Per 100,000 population)							Rate Margin (I <sub>2000</sub> -I <sub>1999</sub> ) <sup>b</sup>	
	1993	1994	1995	1996	1997	1998	1999	California (I <sub>2000</sub> ? 10.0)	National (I <sub>2000</sub> ? 3.5)
White									
Male	5.3	3.8	1.8	4.5	2.9	3.1	2.4	+7.6	+1.1
Female	1.5	1.3	0.9*	0.9*	2.0	0.9*	0.9*	+9.1	+2.6
Hispanic									
Male	15.0	14.2	15.5	15.2	16.6	13.2	8.7	+1.3	-5.2
Female	12.2	9.1	12.5	10.0	7.5	3.6	8.0	+2.0	-4.5
Asian									
Male	46.6	66.1	40.7	45.1	43.6	33.5	46.2	-36.2	-42.7
Female	40.6	47.8	21.8	31.9	43.6	31.6	39.0	-29.0	-35.5
Black									
Male	36.5	17.1	19.7	13.4	11.6	11.2	17.7	-7.7	-14.2
Female	9.5	9.3	15.1	7.4	5.8*	7.0	5.4*	+4.6	-1.9
Total	9.7	8.5	7.8	8.0	7.9	6.1	6.7	+3.3	-3.2

\* Rates may be unstable (n < 5).

<sup>a</sup> Native American is not included (n < 5 for all categories).

<sup>b</sup> I<sub>1999</sub> = Incidence of tuberculosis (per 100,000) reported in San Bernardino County during 1999;

I<sub>2000</sub> = Year 2000 objective for incidence of tuberculosis (per 100,000);

Positive (+) values represent the quantity by which the population group has surpassed given objective;

Negative (-) values represent the quantity by which the population group fails to meet given objective;

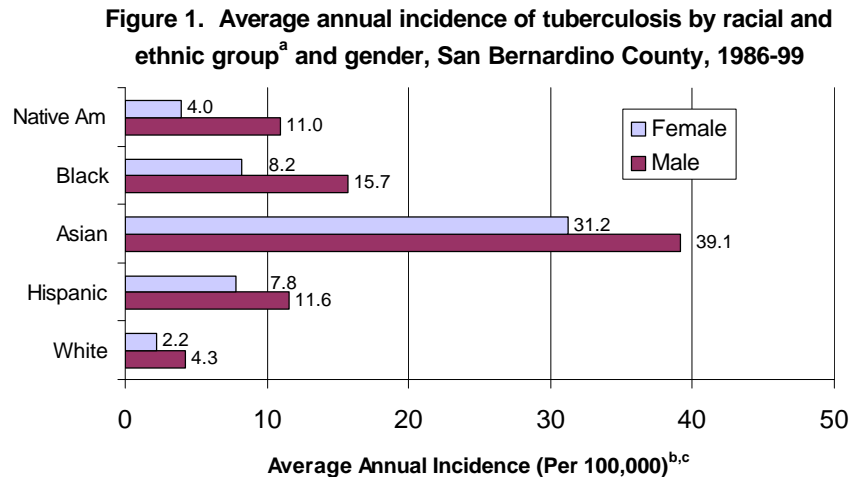
California Objective = Established by the California Department of Health Services Tuberculosis Control Branch;

National Objective = Established by the US Department of Health and Human Services, *Healthy People 2000*.

### ***Demographics (Gender, Race and Age Group, City of Residence), 1986-99***

San Bernardino County is geographically the largest county in the contiguous United States, spanning 20,062 square miles. Because desert constitutes 90% of the geographic area of San Bernardino County, the majority of the population resides in the San Bernardino Valley region. It is not then surprising that most tuberculosis cases reside in cities located in the valley. The largest proportion (21%) of cases reported in 1999 resided in the city of San Bernardino, the largest city in San Bernardino County and the seventeenth largest city in California based on California Department of Finance population estimates for January 1999. The city of San Bernardino was followed by Fontana (12%), the fourth largest, and Ontario (8%), the second largest, city in the County.

Since 1986, the rate of tuberculosis has been consistently highest in the Asian population, and its rate relative to the other racial and ethnic groups has generally increased since 1993. The average annual incidence rate of tuberculosis, 1986-99, was highest among Asian males (39.1 cases per 100,000) and females (31.2 cases per 100,000). They were followed by black males (15.7 cases per 100,000), Hispanic males (11.6 cases per 100,000) and Native American males (11.0 cases per 100,000) (Figure 1). Although Asians constituted only 5.0% of the 1999 population, 31.9% of cases reported in the same year were recorded in this population. A similar pattern was seen among the Hispanic and black populations. Conversely, the white population made up more than half of the 1999 population but only 13% of cases reported in the same year.

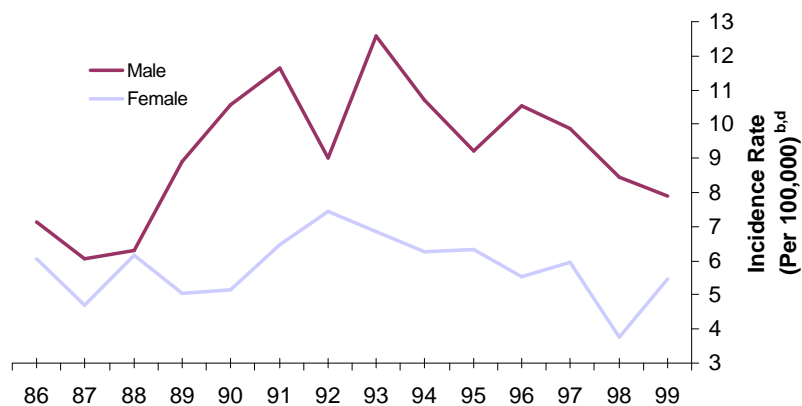


The burden of disease was consistently greater in males, particularly after 1988, when incidence in both genders appeared to follow the same trend (Figure 2). Although both genders appear to have contributed to the resurgence of tuberculosis during the 1990s, the rise observed for males (2-fold for the period 1988-93; incidence in males peaked in 1993) was double that observed for females (1.2-fold for the period 1988-92; incidence in females peaked in 1992). Rates of disease for males were higher than for females in every racial and ethnic category. This

pattern is particularly evident in Native Americans, a group for which the average annual incidence in males was nearly 3 times that in females for the period 1986-99. Among both blacks and whites incidence for males was approximately twice that observed for females, while the patterns for both Hispanics and Asians are not as divergent between the genders (Figure 1).

Among males, incidence in Asians (39.1 cases per 100,000) during this period was 2.5 times that for blacks (15.7 cases per 100,000), the race group with the second greatest incidence, and 9 times that of whites, the race group with the lowest incidence. A similar pattern is recognized among females during the same period. Incidence in Asians (31.2 cases per 100,000) was approximately 4 times that for both blacks (8.2 cases per 100,000) and Hispanics (7.8 cases per 100,000) and 14 times that for whites (Figure 1).

**Figure 2. Gender-specific incidence rates of tuberculosis, San Bernardino County, 1986-99**



The contribution of a given population group can be crudely measured relative to the remainder of the population. The rate of tuberculosis in white males peaked in 1991 with an incidence of 38 cases reported, which is more than double the number of reported cases in 1989. This increase partially accounts for the rise in local disease occurrence observed in 1991. White males, however, contributed equally with other racial and ethnic groups to the disease occurrence in the general population (Population Attributable Risk [PAR]=0 cases per 100,000), as the incidence of tuberculosis in other population groups increased as well. The rate of tuberculosis in this population group was higher in 1996 than in neighboring years, primarily due to outbreaks in two prison HIV units during 1995-96.<sup>4</sup>

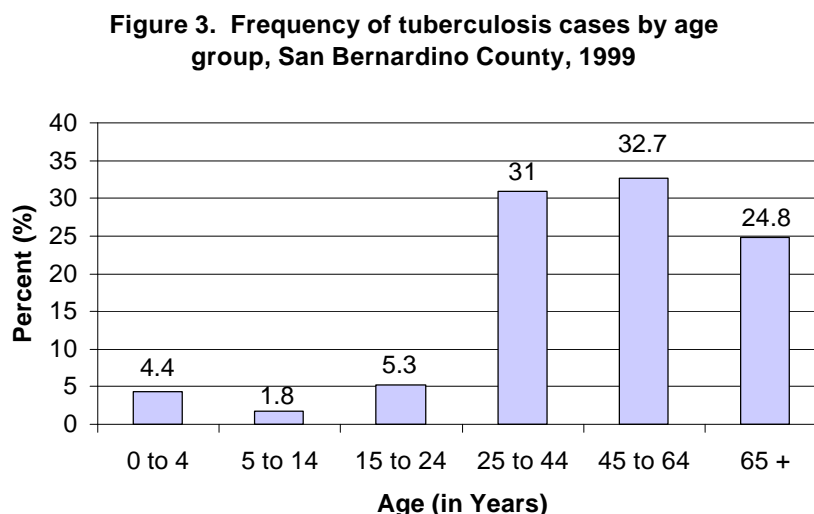
Incidence in the black male population doubled from 1992 to 1993 and the resulting incidence rates increased nearly 2-fold from 19.6 cases per 100,000 population to 36.5 cases per 100,000 population for the same period. This increase, although seemingly similar to that observed in white males from 1989 to 1991, explains a substantial portion of the 1993 resurgent peak in disease burden. Approximately one-tenth (PAR%=11.3%) of the cases reported were



attributable to disease in the black male population. Consequently, 1 additional case of tuberculosis was attributable to disease in this population group for every 100,000 residents of San Bernardino County in 1993 (PAR=1.1 cases per 100,000 population), resulting in 17 more cases than would be expected given the size of the black male population in San Bernardino County. This excess rate of disease exceeds that for black males during both 1992 and 1994 (PAR=0.4 cases per 100,000 population and PAR% < 5.0% during both 1992 and 1994). Further, no excess cases reported in 1993 were attributable to disease in black females (PAR=0 cases per 100,000). The recent peak incidence of tuberculosis in San Bernardino County observed in 1993 can in part then be attributed to the surge of disease that occurred in the black male population during the same year.

The age group in which blacks were most frequently diagnosed and reported between 1993 and 1999 was 25 to 44 years of age for both females (45.7%) and males (58.3%). The respective proportions are greater than those of females and males in the respective overall populations of females and males (range: 30.1% in 1994 – 43.0% in 1993). This is also the age group for which the greatest proportion of AIDS cases are reported in San Bernardino County (see AIDS, page 25). Because only about 5% of black cases reported between 1993 and 1999 were born outside the US, it is assumed that the majority of these infections were acquired domestically. Together, these data suggest that ongoing transmission has occurred among black males aged 25 to 44 years in San Bernardino County between 1993 and 1999, possibly in association with infections with HIV.

Nearly 90% of tuberculosis cases in 1999 were age 25 years or older, with cases aged 45 to 64 years most frequently reported (Figure 3). Incidence was consistently greatest in those 25-44 years of age until 1999, the year it was surpassed by the group of those 45-54 years of age (Table 2). Incidence in those 25-44 years of age decreased 46% from 65 cases (43%) in 1993,



the year in which this age cohort was the largest, to 35 cases (31%) in 1999. Among all age groups, as defined in Table 2, the most dramatic changes in incidence occurred in cases younger

Table 2. Frequency of tuberculosis by gender, racial and ethnic group, and age group, San Bernardino County, 1993-99.

Demographics	1993 n (%)	1994 n (%)	93-94 % chg	1995 n (%)	94-95 % chg	1996 n (%)	95-96 % chg	1997 n (%)	96-97 % chg	1998 n (%)	97-98 % chg	1999 n (%)	98-99 % chg	1993-99 n (%)	93-99 % chg
<b>Gender</b>															
Male	98 (64.9)	84 (63.2)	-14.3	73 (59.3)	-13.1	84 (65.6)	15.1	80 (62.5)	-4.8	70 (69.3)	-12.50	67 (59.3)	-4.3	<b>556 (63.4)</b>	<b>-31.6</b>
Female	53 (35.1)	49 (36.8)	-7.5	50 (40.7)	2.0	44 (34.4)	-12.0	48 (37.5)	9.1	31 (30.7)	-35.4	46 (40.7)	48.4	<b>321 (36.6)</b>	<b>-13.2</b>
<b>Race/Ethnicity</b>															
White	31 (20.5)	23 (17.3)	-25.8	12 (9.8)	-47.8	24 (18.8)	100.0	22 (17.2)	-8.3	18 (17.8)	-18.2	15 (13.3)	-16.7	<b>145 (16.5)</b>	<b>-51.6</b>
Hispanic <sup>a</sup>	60 (39.7)	53 (39.8)	-11.7	65 (52.8)	22.6	60 (46.9)	-7.7	60 (46.9)	0	44 (43.6)	-26.7	45 (39.8)	2.3	<b>387 (44.1)</b>	<b>-25.0</b>
Black	29 (19.2)	17 (12.8)	-41.4	23 (18.7)	35.3	14 (10.9)	-39.1	12 (9.4)	-14.3	13 (12.9)	8.3	17 (15.0)	30.8	<b>125 (14.3)</b>	<b>-41.4</b>
Asian	29 (19.2)	39 (29.3)	34.5	22 (17.9)	-43.6	28 (21.9)	27.3	33 (25.8)	17.9	26 (25.7)	-21.2	36 (31.9)	38.5	<b>213 (24.3)</b>	<b>24.1</b>
Native Am	2 (1.3)	1 (0.8)	-50.0	1 (0.8)	0	2 (1.6)	100.0	1 (0.8)	-50.0	0	-100.0	0	--	<b>7 (0.8)</b>	<b>-100.0</b>
<b>Age Group</b>															
0-4	13 (8.6)	9 (6.8)	-30.8	17 (13.8)	88.9	16 (12.5)	-5.9	13 (10.2)	-18.8	7 (6.9)	-46.2	5 (4.4)	-28.6	<b>80 (9.1)</b>	<b>-61.5</b>
5-14	10 (6.6)	10 (7.5)	0	13 (10.6)	30.0	11 (8.6)	-15.4	6 (4.7)	-45.5	3 (3.0)	-50.0	2 (1.8)	-33.3	<b>55 (6.3)</b>	<b>-80.0</b>
15-24	17 (11.3)	17 (12.8)	0	11 (8.9)	-35.3	9 (7.0)	-18.2	16 (12.5)	77.8	12 (11.9)	-25.0	6 (5.3)	-50.0	<b>88 (10.0)</b>	<b>-64.7</b>
25-44	65 (43.0)	41 (30.8)	-36.9	37 (30.1)	-9.8	44 (34.4)	18.9	45 (35.2)	2.3	34 (33.7)	-24.4	35 (31.0)	2.9	<b>301 (34.3)</b>	<b>-46.2</b>
45-54	32 (21.2)	32 (24.1)	0	25 (20.3)	-21.9	29 (22.7)	16.0	25 (19.5)	-13.8	22 (21.8)	-12.0	37 (32.7)	68.2	<b>202 (23.0)</b>	<b>15.6</b>
65+	14 (9.3)	24 (18.0)	71.4	20 (16.3)	-16.7	19 (14.8)	-5.0	23 (18.0)	21.1	23 (22.8)	0	28 (24.8)	21.7	<b>151 (17.2)</b>	<b>100.0</b>
<b>Total</b>	<b>151</b>	<b>133</b>	<b>-11.9</b>	<b>123</b>	<b>-7.5</b>	<b>128</b>	<b>4.1</b>	<b>128</b>	<b>0</b>	<b>101</b>	<b>-21.1</b>	<b>113</b>	<b>11.9</b>	<b>877</b>	<b>-25.2</b>

Table 3. Frequency of tuberculosis by racial and ethnic group and gender, San Bernardino County, 1993-99.

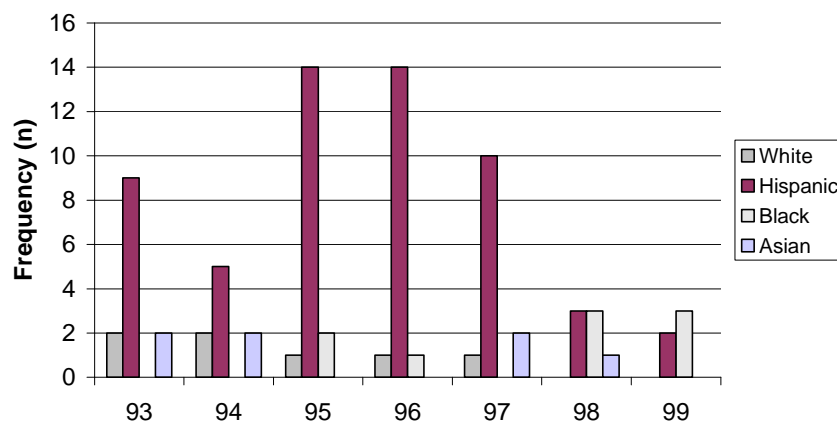
Demographics	1993 n (%)	1994 n (%)	93-94 % chg	1995 n (%)	94-95 % chg	1996 n (%)	95-96 % chg	1997 n (%)	96-97 % chg	1998 n (%)	97-98 % chg	1999 n (%)	98-99 % chg	1993-99 n (%)	93-99 % chg
<b>White</b>															
Male	24 (77.4)	17 (73.9)	-29.2	8 (66.7)	-52.9	20 (83.3)	150.0	13 (59.1)	-35.0	14 (77.8)	7.7	11 (73.3)	-21.4	<b>107 (73.8)</b>	<b>-54.2</b>
Female	7 (22.6)	6 (26.1)	-14.3	4 (33.3)	-33.3	4 (16.7)	0	9 (40.9)	125.0	4 (22.2)	-55.6	4 (26.7)	0	<b>38 (26.2)</b>	<b>-42.9</b>
<b>Hispanic<sup>a</sup></b>															
Male	34 (56.7)	33 (62.3)	-2.9	37 (56.9)	12.1	37 (61.7)	0	42 (70.0)	13.5	35 (79.5)	-16.7	24 (53.3)	-31.4	<b>242 (62.5)</b>	<b>-29.4</b>
Female	26 (43.3)	20 (37.7)	-23.1	28 (43.1)	40.0	23 (38.3)	-17.9	18 (30.0)	-21.7	9 (20.5)	-50.0	21 (46.7)	133.3	<b>145 (37.5)</b>	<b>-19.2</b>
<b>Black</b>															
Male	23 (79.3)	11 (64.7)	-52.2	13 (56.5)	18.2	9 (64.3)	-30.8	8 (66.7)	-11.1	8 (61.5)	0	13 (76.5)	62.5	<b>85 (68.0)</b>	<b>-43.5</b>
Female	6 (20.7)	6 (35.3)	0	10 (43.5)	66.7	5 (35.7)	-50.0	4 (33.3)	-20.0	5 (38.5)	25.0	4 (23.5)	-20.0	<b>40 (32.0)</b>	<b>-33.3</b>
<b>Asian</b>															
Male	15 (51.7)	22 (56.4)	46.7	14 (63.6)	-36.4	16 (57.1)	14.3	16 (48.5)	0	13 (50.0)	-18.8	19 (52.8)	46.2	<b>115 (54.0)</b>	<b>26.7</b>
Female	14 (48.3)	17 (43.6)	21.4	8 (36.4)	-52.9	12 (42.9)	50.0	17 (51.5)	41.7	13 (50.0)	-23.5	17 (47.2)	30.8	<b>98 (46.0)</b>	<b>21.4</b>
<b>Native Am</b>															
Male	2 (100.0)	1 (100.0)	-50.0	1 (100.0)	0	2 (100.0)	100.0	1 (100.0)	-50.0	0	-100.0	0	--	<b>7 (100.0)</b>	<b>-100.0</b>
Female	0	0	--	0	--	0	--	0	--	0	--	0	--	<b>0</b>	<b>--</b>
<b>Total</b>	<b>151</b>	<b>133</b>	<b>-11.9</b>	<b>123</b>	<b>-7.5</b>	<b>128</b>	<b>4.1</b>	<b>128</b>	<b>0</b>	<b>101</b>	<b>-21.1</b>	<b>113</b>	<b>11.9</b>	<b>877</b>	<b>-25.2</b>

<sup>a</sup> Cases that identify their ethnicity as Hispanic are classified as Hispanic regardless of race designation.

than 45 years of age at the time of diagnosis. In every age group under 45 years, incidence decreased by more than 45%. Consequently, fewer than 10 cases were reported for each of the 3 youngest age groups in 1999, the only year in which this occurred during the period 1993-99. The most marked among proportional declines was observed in the age group 5-14 years, in which incidence declined by 8 cases from 1993 to 1999, representing a substantial decline in this population group.

Certain segments of the population serve as sentinel or indicator groups that aid public health officials in monitoring communicable disease transmission locally. Children under 5 years of age who exhibit a positive tuberculin skin test, as well as tuberculin skin test converters (defined as conversion from a documented negative tuberculin skin test to a subsequent positive tuberculin skin test within 2 years) of all ages, provide evidence suggestive of local transmission of tuberculosis. Hispanic children accounted for a substantial proportion (66.0%) of cases under 5 years of age from 1993 to 1997 (Figure 4). This age group in fact accounts for more cases in US-born Hispanics than any of the others (n=47, 26.9%). The average annual incidence rate for this population group during 1993-99 was 10.0 cases per 100,000 population, making its burden of disease generally the same as Hispanics of all ages during this period. Since 1997, incidence in Hispanics of this age group declined to only 2 cases in 1999. Children under 5 years of age who identified with the other racial and ethnic groups did not show a similar trend. These data suggest that tuberculous disease resulting from recent transmission to the youngest constituents of the County population, primarily of Hispanic ethnicity, has been reduced since 1993. The observations described here reflect a steady decline in the number of potentially communicable cases of tuberculosis in San Bernardino County that began in 1993.

**Figure 4. Frequency of tuberculosis in ages 0-4 years by racial and ethnic group<sup>e</sup>, San Bernardino County, 1993-99**



Children diagnosed with tuberculosis were exposed to a person with infectious tuberculosis during the relatively short period between birth and diagnosis. Five of 11 (45.5%) Asian cases under 5 years of age were born outside the US, whereas only 10 of 57 (17.5%) Hispanic cases under 5 years of age were born outside the US. In fact, between 1993 and 1999,

only 15 of 92 (16.3%) cases that were Hispanic and under 15 years of age were born outside the US. These data suggest that the occurrence of tuberculosis in Asians under 5 years of age do not appear to indicate evidence of recent local transmission as well as do incidence trends among Hispanics in this youngest age group.

The data describe a different picture for Hispanics 15 years of age or older, a group for which 195 of 295 (66.1%) cases were born outside the US. Although approximately 50% of all Hispanic cases were born outside the US, however, incidence in this population group is dependent on age. When compared with the data derived from Asian cases during the same time period, these figures indicate that Asian cases were more frequently born outside the US in both adults and children. Both Asia and many parts of Latin America are regions where tuberculosis is more commonly transmitted than in the US. Virtually all (97.4%) of the 192 Asian cases 15 years of age or older and almost half (42.9%) of the 21 Asian cases under 15 years of age were born outside the US. For reasons related to the geographic proximity of the birth places and US address once relocated of Hispanic children born outside the US, this population group is probably more likely than Asian children to travel to the place where they were born, although these data have not been routinely recorded. Likewise, families of these cases are probably more likely to host guests visiting from the country in which they were born. Consequently, it is difficult to determine from these data the degree to which tuberculosis in the US-born Hispanic child population results from exposure in this versus another country.

The age dynamics of cases among Hispanics during this period shifted from predominately young to more frequently those 35 years or older. Hispanics, particularly females 55-64 years of age, the population group for which 10 cases were reported in 1999 and only 1 case was reported in each of the previous 2 reporting years, partially accounted for the rise in incidence observed between 1998 and 1999. Hispanics between the ages of 45 and 64 years were affected by a 125% rise in incidence from 8 cases in 1998 to 18 cases in 1999. Of all Hispanic adult cases reported during 1993-99 and between the ages of 45 and 64 years, 61% were born outside the US, suggesting that most of these cases did not acquire their infections locally. None of these was linked epidemiologically through contact investigations and there was no observable time clustering of cases that were residents of a long-term care facility at the time of diagnosis.

Incidence among Hispanic males, on the other hand, decreased to 24 (21.2%) cases in 1999, the lowest level during the 6-year observation period, from 35 (34.7%) cases in 1998 (Table 3). Change observed in the middle age ranges, between 15 and 44 years, in males primarily accounts for this decline. From 1997 to 1999, there were no cases reported among whites under 30 years of age. The frequency of cases in blacks aged 35-44 years peaked in 1995 and has since become more distributed among other age groups.

Unlike the trend observed for all cases under age 45 years, incidence in those aged 45-54 years rose 15% to 37 cases in 1999, marking the peak of disease burden during the period 1993-99. More strikingly, incidence in adults 65 years or older doubled from 14 cases in 1993 to 28 cases in 1999. The majority of this increase (71.4%) is explained by the rise in incidence in this age group from 14 cases in 1993 to 24 cases in 1994, after which time incidence remained relatively unchanged until subsequently rising in 1999. In each instance, the increase was in large part attributable to that which occurred in the Asian population.

### ***Risk Groups, 1993-99***

Populations at risk for developing tuberculosis have been well defined.<sup>5</sup> The small increase in cases observed in 1999 does not appear to be the result of an increase in the proportion of cases belonging to any one of these identified risk groups (Table 4). The proportion of cases that were reportedly homeless has remained under 6% during this period. It may be, however, transiently homeless cases are not correctly identified as such and, consequently, the true incidence of homelessness among San Bernardino County cases is underrepresented. Likewise, the proportion of cases that reportedly abuse a drug or alcohol was 10% or below during 1997-99, generally down slightly from the proportions recorded during 1993-96. Lastly, the proportionate decrease in the incidence of cases reported from a correctional facility appears very large (79.4%) between 1993 and 1999, as 22.5% of all cases reported in 1993, the year of greatest incidence in San Bernardino County during the 1990s, were reported from a correctional facility (Table 4).

### ***Country of Origin, 1993-99***

Between 1993 and 1999, 877 cases of tuberculosis were reported in San Bernardino County. During this period, nearly half of all cases were born outside the US. (Table 4). This proportion increased from 33.1% in 1993 to 56.6% in 1999, reflecting both a 30.0% rise in the number of cases born outside the US and a substantial 53.5% decline in the number of US-born cases (Figure 5). The vast majority of cases reported between 1993 and 1999 that were born outside the US were identified as Hispanic or Asian. Consequently, of the 419 foreign-born cases, most originated in either North America (47.7%), of which 86.5% were from Mexico, or Asia (46.3%) (Table 5). The majority of Asian- born cases arrived from the Philippines (36.6%), Vietnam (27.8%), Indonesia (8.8%), and the Republic of Korea (8.8%). As such, 210 (50.0%) cases born outside the US identified with the Hispanic, 196 (46.7%) Asian, 8 (1.9%) black and 6 (1.4%) with the white populations. The proportion of cases born in the US is not equal for all racial and ethnic groups (Figure 6). More than 90% of both whites and blacks were born in the US, whereas the US-born account for 45% of Hispanics and only 8% of Asians. It is generally accepted that tuberculosis cases born outside the US likely acquired their infections in the country from which they emigrated, particularly those that originate in countries where tuberculosis is common.

**Figure 5. Incidence and percent cases born outside the US, San Bernardino County, 1993-99**

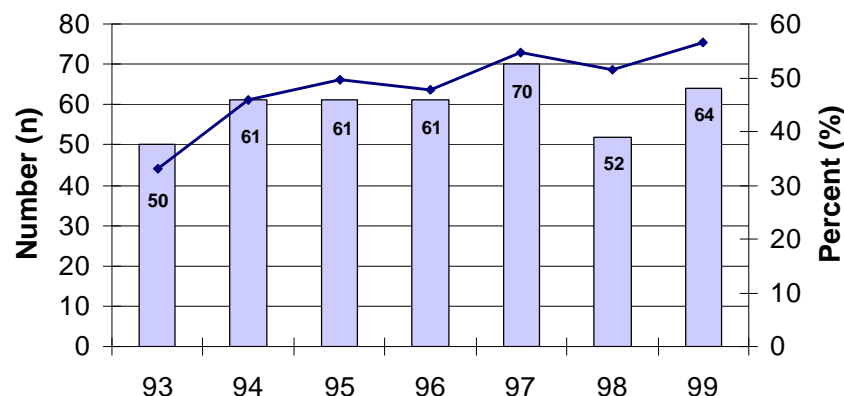


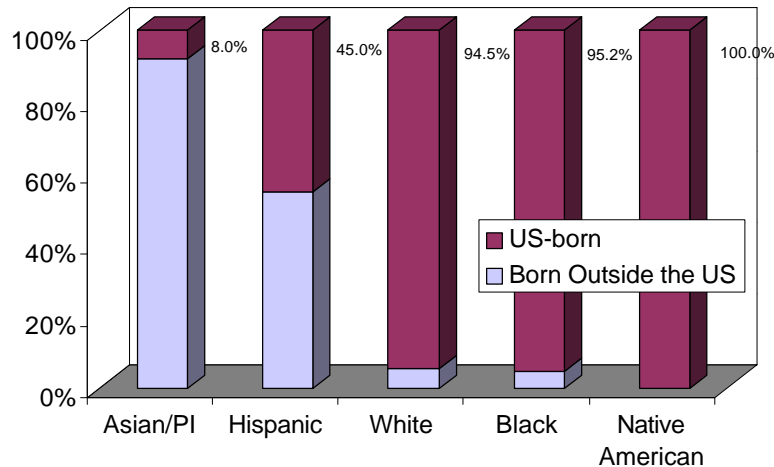
Table 4. Frequency of tuberculosis among select risk categories, San Bernardino County, 1993-99.

Risk Groups	1993 n (%)	1994 n (%)	93-94 % chg	1995 n (%)	94-95 % chg	1996 n (%)	95-96 % chg	1997 n (%)	96-97 % chg	1998 n (%)	97-98 % chg	1999 n (%)	98-99 % chg	1993-99 n (%)	93-99 % chg
<b>Place of Birth</b>															
US-born	101 (66.9)	72 (54.1)	-28.7	61 (50.0)	-15.3	67 (52.3)	9.8	58 (45.3)	-13.4	49 (48.5)	-15.5	47 (42.0)	-4.1	455 (52.0)	-53.5
Foreign-born	50 (33.1)	61 (45.9)	22.0	61 (50.0)	0	61 (47.7)	0	70 (54.7)	14.8	52 (51.5)	-25.7	65 (58.0)	25.0	420 (48.0)	30.0
<b>Homeless<sup>a</sup></b>															
Yes	7 (4.6)	6 (4.5)	-14.3	7 (5.7)	16.7	3 (2.3)	-57.1	5 (3.9)	66.7	1 (1.0)	-80.0	4 (3.5)	300.0	33 (3.8)	-42.9
No	136 (90.1)	124 (93.2)	-8.8	113 (91.9)	-8.9	125 (97.7)	10.6	119 (93.0)	-4.8	97 (96.0)	-18.5	106 (93.8)	9.3	820 (93.5)	-22.1
Unknown	8 (5.3)	3 (2.3)	-62.5	3 (2.4)	0	0	-100.0	4 (3.1)	--	3 (3.0)	-25.0	3 (2.7)	0	24 (2.7)	-62.5
<b>Correctional Facility<sup>b</sup></b>															
Yes	34 (22.5)	11 (8.3)	-67.6	19 (15.4)	72.7	19 (14.8)	0	13 (10.2)	-31.6	11 (10.9)	-15.4	7 (6.2)	-36.4	114 (13.0)	-79.4
No	117 (77.5)	122 (91.7)	4.3	104 (84.6)	-14.8	109 (85.2)	4.8	115 (89.8)	5.5	90 (89.1)	-21.7	106 (93.8)	17.8	763 (87.0)	-9.4
Unknown	0	0	--	0	--	0	--	0	--	0	--	0	--	0	--
<b>LTCF<sup>c</sup></b>															
Yes	6 (4.0)	2 (1.5)	-66.7	5 (4.1)	150.0	4 (3.1)	-20.0	2 (1.6)	-50.0	1 (1.0)	-50.0	4 (3.5)	300.0	24 (2.7)	-33.3
No	145 (96.0)	131 (98.5)	-9.7	118 (95.9)	-9.9	124 (96.9)	5.1	125 (97.7)	0.8	100 (99.0)	-20.0	109 (96.5)	9.0	852 (97.1)	-24.8
Unknown	0	0	--	0	--	0	--	1 (0.8)	--	0	-100.0	0	--	1 (0.1)	--
<b>IDU<sup>d</sup></b>															
Yes	14 (9.3)	9 (6.8)	-35.7	13 (10.6)	44.4	17 (13.3)	30.8	7 (5.5)	-58.8	2 (2.0)	-71.4	5 (4.4)	150.0	67 (7.6)	-64.3
No	101 (66.9)	98 (73.7)	-3.0	92 (74.8)	-6.1	105 (82.0)	14.1	99 (77.3)	-5.7	77 (76.2)	-22.2	96 (85.0)	24.7	668 (76.2)	-5.0
Unknown	36 (23.8)	26 (19.5)	-27.8	18 (14.6)	-30.8	6 (4.7)	-66.7	22 (17.2)	266.7	22 (21.8)	0	12 (10.6)	-45.5	142 (16.2)	-66.7
<b>Non-IDU<sup>e</sup></b>															
Yes	16 (10.6)	12 (9.0)	-25.0	18 (14.6)	50.0	15 (11.7)	-16.7	10 (7.8)	-33.3	5 (5.0)	-50.0	9 (8.0)	80.0	85 (9.7)	-43.8
No	89 (58.9)	94 (70.7)	5.6	80 (65.0)	-14.9	104 (81.3)	30.0	94 (73.4)	-9.6	70 (69.3)	-25.5	91 (80.5)	30.0	622 (70.9)	2.2
Unknown	46 (30.5)	27 (20.3)	-41.3	25 (20.3)	-7.4	9 (7.0)	-64.0	24 (18.8)	166.7	26 (25.7)	8.3	13 (11.5)	-50.0	170 (19.4)	-71.7
<b>Excessive Alcohol Use<sup>f</sup></b>															
Yes	21 (13.9)	18 (13.5)	-14.3	21 (17.1)	16.7	20 (15.6)	-4.8	13 (10.2)	-35.0	9 (8.9)	-30.8	11 (9.8)	22.2	113 (12.9)	-47.6
No	87 (57.6)	87 (65.4)	0	74 (60.2)	-14.9	102 (79.7)	37.8	96 (75.0)	-5.9	63 (62.4)	-34.4	86 (76.8)	36.5	595 (67.9)	-1.1
Unknown	43 (28.5)	28 (21.1)	-34.9	28 (22.8)	0	6 (4.7)	-78.6	19 (14.8)	216.7	29 (28.7)	52.6	15 (13.4)	-48.3	168 (19.2)	-65.1
<b>Occupation<sup>g</sup></b>															
Health Care	1 (0.7)	7 (5.3)	600.0	1 (0.8)	-85.7	10 (7.8)	900.0	4 (3.1)	-60.0	0	-100.0	4 (3.5)	--	27 (3.1)	300.0
Corrections	1 (0.7)	0	-100.0	0	--	0	--	0	--	0	--	0	--	1 (0.1)	-100.0
Migratory Ag.	1 (0.7)	1 (0.8)	0	0	-100.0	1 (0.8)	--	0	-100.0	0	--	1 (0.9)	--	4 (0.5)	0
Other Occupation	37 (24.5)	22 (16.5)	-40.5	15 (12.2)	-31.8	19 (14.8)	26.7	36 (28.1)	89.5	27 (26.7)	-25.0	41 (36.3)	51.9	197 (22.5)	10.8
Not Employed	83 (55.0)	73 (54.9)	-12.0	89 (72.4)	21.9	91 (71.1)	2.2	81 (63.3)	-11.0	56 (55.4)	-30.9	58 (51.3)	3.6	531 (60.5)	-30.1
Unknown	28 (18.5)	30 (22.6)	7.1	18 (14.6)	-40.0	7 (5.5)	-61.1	7 (5.5)	0	18 (17.8)	157.1	9 (8.0)	-50.0	117 (13.3)	-67.9
<b>Total</b>	<b>151</b>	<b>133</b>	<b>-11.9</b>	<b>123</b>	<b>-7.5</b>	<b>128</b>	<b>4.1</b>	<b>128</b>	<b>0</b>	<b>101</b>	<b>-21.1</b>	<b>113</b>	<b>11.9</b>	<b>877</b>	<b>-25.2</b>

<sup>a</sup> Homeless within 1 year prior to diagnosis.<sup>b</sup> Resident of a correctional facility at the time of diagnosis.<sup>c</sup> Resident of a long-term care facility at the time of diagnosis.<sup>d</sup> Injecting drug use within 1 year prior to diagnosis.<sup>e</sup> Non-injecting drug use within 1 year prior to diagnosis.<sup>f</sup> Excessive alcohol use within 2 years prior to diagnosis.<sup>g</sup> Occupation(s) within 2 years prior to diagnosis; categories are not mutually exclusive.

Approximately 1 in every 10 individuals in the general population with latent tuberculosis infection will develop active tuberculosis disease sometime during his lifetime and half of those who develop disease will do so within 2 years following the initial infection. Persons with HIV infection and other immunocompromising conditions have a lifetime risk many times greater than that for the general population. During 1993-99, about one-third of the 304 cases born outside the US was diagnosed with tuberculosis within 2 years of entering this country. Slightly more than half of the cases born outside the US was diagnosed 6 years or more after their initial entry into the US.

**Figure 6. Proportion of tuberculosis cases born in the US by racial/ethnic group, San Bernardino County, 1993-99**



**Table 5. World region of origin, foreign-born tuberculosis cases (n=419), San Bernardino County, 1993-99.**

North America n (%)		Asia n (%)		Africa n (%)		South America n (%)	
Mexico	173 (86.5)	Philippines	71 (36.6)	Ethiopia	2 (28.6)	Peru	4 (57.1)
Guatemala	10 (5.0)	Vietnam	54 (27.8)	Algeria	1 (14.3)	Brazil	2 (28.6)
Honduras	5 (2.5)	Indonesia	17 (8.8)	Malawi	1 (14.3)	Ecuador	1 (14.3)
El Salvador	4 (2.0)	Korea – Republic	17 (8.8)	Mozambique	1 (14.3)		
Cuba	3 (1.5)	Cambodia	9 (4.6)	Nigeria	1 (14.3)		
Puerto Rico	2 (1.0)	China	5 (2.6)	Uganda	1 (14.3)		
Nicaragua	2 (1.0)	Pakistan	4 (2.1)				
Belize	1 (0.5)	Taiwan	4 (2.1)				
		Hong Kong	4 (2.1)				
		India	4 (2.1)				
		Thailand	2 (1.0)				
		Afghanistan	1 (0.5)				
		Burma (Myanmar)	1 (0.5)				
		Korea – Dem Peoples Republic	1 (0.5)				
Total	200 (47.7)	Total	194 (46.3)	Total	7 (1.7)	Total	7 (1.7)

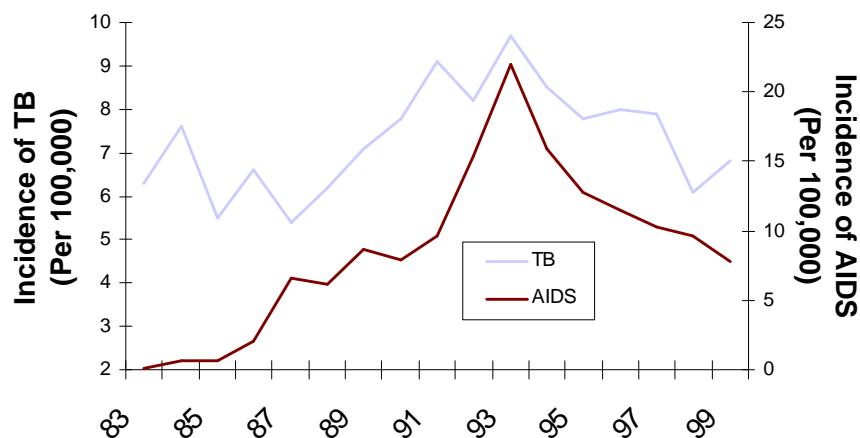
Europe n (%)		Australasia n (%)	
Romania	2 (33.3)	Tonga	3 (75.0)
Italy	1 (16.7)	Fiji	1 (25.0)
Macedonia	1 (16.7)		
Sweden	1 (16.7)		
UK	1 (16.7)		
Total	6 (1.4)	Total	4 (1.0)

<sup>a</sup> World region totals do not sum to 419; the world region for 1 foreign-born case was unspecified.

## ***HIV and Tuberculosis***

Persons with certain medical conditions are at increased risk for developing tuberculosis disease once infected, and may also make them more susceptible to infection itself. These conditions include HIV infection, diabetes mellitus, pulmonary silicosis, substance abuse, immunosuppressive therapy and end-stage renal disease. HIV infection is probably the most significant of these conditions and may increase the risk for the development of tuberculosis disease as much as 100 times that for the general population, which translates into a 7-10% annual risk of tuberculosis disease. It may also dramatically shorten the interval between infection and development of tuberculosis disease. The HIV/AIDS epidemic substantially contributed to the rising incidence of tuberculosis observed in the US, California and San Bernardino County during the middle portion of the last 2 decades, and has emerged as a public health crisis in other parts of the world (Figure 7).

**Figure 7. Co-epidemics of TB and AIDS, San Bernardino County, 1983-99.**



Since 1983, the year San Bernardino County reported its first AIDS case, peak incidence for both tuberculosis and AIDS was recorded in 1993. Incidence rose dramatically to 22.0 cases per 100,000 population in 1993. This increase was in large part attributable to a change in definition of AIDS for adolescents and adults (age greater than 13 years), which among other additions, then included pulmonary tuberculosis as an AIDS-defining illness (Figure 8).<sup>6,7</sup> Subsequent retrospective AIDS case finding based on prior tuberculosis diagnoses revealed that the first case of AIDS defined by pulmonary tuberculosis in San Bernardino County occurred in 1988 (Figure 8). Persons greater than 13 years of age with HIV infection who were previously diagnosed with a condition added to the surveillance definition in 1993 were then reported in aggregate after January 1, 1993, resulting in the inflated peak incidence observed during the same year.

As a result of the definition change in 1993, both pulmonary and extrapulmonary tuberculosis are AIDS-defining illnesses. It is nevertheless clear that the local increase in tuberculosis between 1987 and 1993 was at least partly associated with a growing core of immunocompromised individuals at increased risk for developing tuberculosis due to infection with HIV. Of the 4,095 AIDS cases reported in San Bernardino County through 1998 with a

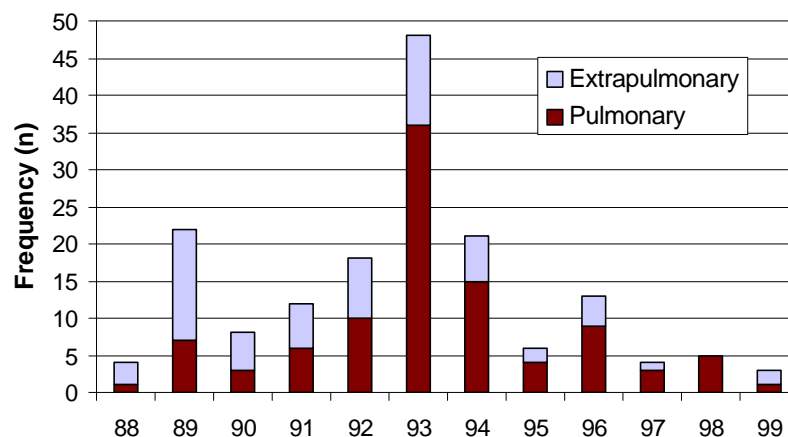


recorded AIDS defining condition, 51 (1%) were defined by diagnosis with pulmonary tuberculosis and 39 (1%) by diagnosis with extrapulmonary tuberculosis.

Between 1995 and 1999, 834 of 943 (88.4%) persons diagnosed with AIDS in San Bernardino County were between the ages of 25 and 54 years (see AIDS, page 25). Three racial and ethnic groups accounted for most AIDS cases during this period: the white (40.1%); Hispanic (30.9%) and black (24.7%) populations. The incidence of AIDS has decreased in these population groups during this period, but the declines were not consistent between the groups. While the incidence in both whites and blacks declined more than 50% during this period, the decline observed in Hispanics was 12%.

When compared with the local incidence of tuberculosis in racial and ethnic groups, these data suggest that the population groups perhaps most affected by co-morbidity with HIV and tuberculosis are Hispanics and blacks. Black males contributed to the local incidence of tuberculosis statistically more than was expected during the 1990s, as described previously in this report. This population has also consistently experienced a high incidence of AIDS. Blacks contributed 18.5% of all AIDS cases during this period, while the midpoint population estimate for this population group accounted for less than 10% of the San Bernardino County population. During the same period, 83.6% of all AIDS cases and 62.8% of all tuberculosis cases were male.

**Figure 8. Frequency of AIDS cases defined by diagnosis with tuberculosis, San Bernardino County, 1988-99.**

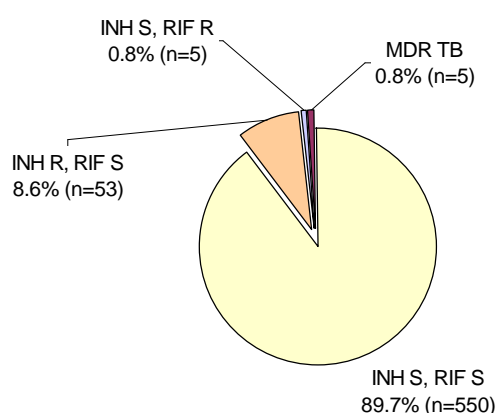


### ***Drug Resistance, 1993-99***

Multi-drug resistant tuberculosis (MDR-TB), defined as resistance to at least the first line drugs isoniazid (INH) and rifampin, is a significant cause of excess morbidity and mortality from tuberculosis in some regions of the world, and can be enormously costly to treat. During the period 1993-99, just under 10% of all cases reported in San Bernardino County for which drug susceptibility results were available were resistant to INH, and less than 1% was MDR-TB (Figure 9). Of the 5 MDR-TB cases during this period, 3 were born outside the US. A recent analysis revealed that the cost borne by San Bernardino County for anti-tuberculosis drugs to treat one of these MDR-TB cases was equal to the cost of drugs to treat 40 cases with pan-susceptible tuberculosis.

Directly Observed Therapy (DOT), a program that was expanded in San Bernardino County during the 1990s, is a method by which a trained Tuberculosis Control Program staff member directly administers each dose of therapy. DOT helps ensure the completion of a full and appropriate course of treatment for tuberculosis. It is the most cost-effective method for preventing the development of drug-resistant tuberculosis, and is considered by some the most cost-effective public health intervention. In 1997, the last year for which complete data was available, 72% of all tuberculosis cases reported in San Bernardino County were initiated on treatment by DOT.

**Figure 9. Resistance to isoniazid (INH) and rifampin (RIF)<sup>f,g</sup>, *Mycobacterium tuberculosis* complex, San Bernardino County, 1993-99**



With the exception of INH, resistance was not determined for all TB drugs on every specimen submitted for a drug resistance panel from 1993 to 1999. The proportion of specimens resistant to INH ranged from 5.9% in 1996 to 18.2% observed in 1995 (Table 6). Of those cases with strains of tuberculosis resistant to INH, 36 (62.1%) were born in the US and were most frequently Hispanic (41.4%) and Asian (34.5%) (Table 7).

A similar pattern was observed among racial and ethnic groups for resistance to at least one first-line drug (Table 8). A particularly interesting observation emerges when comparing Hispanic cases resistant to only INH with those resistant to at least one first-line drug by country of origin. The majority (62.5%) of Hispanic cases that were resistant to only INH was born in the US. The reverse effect was observed for Hispanic cases resistant to at least one first-line drug, where only 34.7% were born in the US. All Asian (n=20) and the majority of Hispanic cases (n=15) already mentioned with INH-resistant tuberculosis were born outside the US, whereas none of the white and only 1 (12.5%) of the black INH-resistant cases were born outside the US. The same pattern is observed among cases resistant to at least one first line drug. Among race groups for which more than 5 specimens were tested for drug resistance, Asians accounted for the highest frequency of resistance to both INH (12.1%) and streptomycin (10.6%), while resistance to pyrazinamide was most frequently observed in Hispanics (7.8%) (Table 9).

Table 6. Frequency of resistance to first-line drugs, *Mycobacterium tuberculosis* complex<sup>a</sup>, San Bernardino County, 1993-99.

First-line Drug Result	1993 n (%) <sup>b</sup> n (%) <sup>c</sup>	1994 n (%) n (%)	1995 n (%) n (%)	1996 n (%) n (%)	1997 n (%) n (%)	1998 n (%) n (%)	1999 n (%) n (%)	1993-99 n (%) n (%)
<b>Isoniazid</b>								
Resistant	8 (7.5)	7 (7.3)	12 (18.2)	5 (5.9)	10 (10.2)	9 (11.5)	7 (7.8)	58 (9.4)
Susceptible	98 (92.5)	89 (92.7)	53 (80.3)	80 (94.1)	88 (89.8)	69 (88.5)	83 (92.2)	560 (90.5)
Not Tested <sup>d</sup>	0	0	0	0	0	0	0	0
<b>Rifampin</b>								
Resistant	3 (2.8)	1 (1.0)	1 (1.5)	1 (1.2)	0	3 (3.8)	1 (1.1)	10 (1.6)
Susceptible	102 (96.2)	93 (96.9)	64 (97.0)	84 (98.8)	98 (100.0)	75 (96.2)	87 (96.7)	603 (97.4)
Not Tested	1 (1.0)	0	0	0	0	0	2 (2.2)	3 (0.5)
<b>Pyrazinamide</b>	<b>3 (5.1)</b>	<b>3 (9.1)</b>		<b>1 (5.0)</b>	<b>1 (2.7)</b>		<b>1 (2.2)</b>	<b>9 (3.7)</b>
Resistant	3 (2.8)	3 (3.1)	0	1 (1.2)	1 (1.0)	0	1 (1.1)	9 (1.5)
Susceptible	52 (49.1)	26 (27.1)	17 (25.8)	19 (22.4)	36 (36.7)	30 (38.5)	44 (48.9)	224 (36.2)
Not Tested	47 (44.3)	63 (65.6)	48 (72.7)	65 (76.5)	61 (62.2)	48 (61.5)	45 (50.0)	377 (60.9)
<b>Ethambutol</b>	<b>13 (12.4)</b>	<b>6 (6.5)</b>						
Resistant	13 (12.3)	6 (6.3)	0	1 (1.2)	1 (1.0)	0	1 (1.1)	22 (3.6)
Susceptible	91 (85.8)	87 (90.6)	65 (98.5)	84 (98.8)	96 (98.0)	78 (100.0)	89 (98.9)	590 (95.3)
Not Tested	1 (0.9)	3 (3.1)	0	0	1 (1.0)	0	0	5 (0.8)
<b>Streptomycin</b>	<b>7 (6.7)</b>	<b>9 (9.9)</b>	<b>3 (4.7)</b>	<b>5 (6.0)</b>	<b>8 (8.3)</b>	<b>5 (6.7)</b>		<b>42 (7.0)</b>
Resistant	7 (6.6)	9 (9.4)	3 (4.5)	5 (5.9)	8 (8.2)	5 (6.4)	5 (5.6)	42 (6.8)
Susceptible	94 (88.7)	82 (85.4)	60 (90.9)	78 (91.8)	88 (89.8)	70 (89.7)	84 (93.3)	556 (89.8)
Not Tested	2 (1.9)	5 (5.2)	2 (3.0)	2 (2.4)	2 (2.0)	3 (3.8)	1 (1.1)	17 (2.7)
<b>MDR<sup>e</sup></b>								
Yes	1 (0.9)	0	1 (1.5)	0	0	2 (2.6)	1 (1.1)	5 (0.8)
No	104 (98.1)	94 (100.0)	64 (97.0)	85 (100.0)	98 (100.0)	76 (97.4)	87 (96.7)	608 (98.2)
Not Tested	1 (0.9)	0	0	0	0	0	2 (2.2)	3 (0.5)
Total Tested <sup>f</sup> (% Cases)	106 (70.2)	96 (72.2)	66 (53.7)	85 (66.4)	98 (76.6)	78 (77.2)	90 (79.6)	619

<sup>a</sup> Frequency of resistance to first-line drugs among cases for which an initial susceptibility test was conducted; a resistance panel was not performed for all cases.

<sup>b</sup> n (%) = Number and percent of only those specimens for which testing was performed on the drug indicated that were resistant (if different from proportion c).

<sup>c</sup> n (%) = Number and percent of all specimens submitted for testing, whether or not a test was performed on the drug indicated, that were resistant.

<sup>d</sup> Not all anti-tuberculosis drugs were tested for each drug susceptibility panel ordered; 'Not Tested' indicates drugs for which a test was not performed as part of the susceptibility panel; test results that were completed but unknown were excluded from this table.

<sup>e</sup> MDR = Multi-drug resistant; defined as resistance to both isoniazid and rifampin.

<sup>f</sup> Total may not sum to 100% because some test results are unknown. Unknown results are not enumerated here but are represented by the total number tested.

Table 7. Country of origin among tuberculosis cases resistant to isoniazid by racial and ethnic groups, San Bernardino County, 1993-99.

<b>Country of Origin</b>	<b>White n (%)</b>	<b>Hispanic n (%)</b>	<b>Black n (%)</b>	<b>Asian n (%)</b>	<b>Native Am n (%)</b>	<b>Total n (%)</b>
US	5 (100.0)	15 (62.5)	7 (87.5)	0	1 (100.0)	22 (37.9)
Outside US	0	9 (37.5)	1 (12.5)	20 (100.0)	0	36 (62.1)
Total	5 (34.5)	24 (41.4)	8 (13.8)	20 (34.5)	1 (1.7)	58 <sup>a</sup> (100.0)

<sup>a</sup> Total number of cases that had initial susceptibility testing performed = 619; proportion that were resistant to at least one first line drug = 58/619 (9.4%).

Table 8. Country of origin among tuberculosis cases resistant to at least one first line drug<sup>a</sup> by racial and ethnic groups, San Bernardino County, 1993-99.

<b>Country of Origin</b>	<b>White n (%)</b>	<b>Hispanic n (%)</b>	<b>Black n (%)</b>	<b>Asian n (%)</b>	<b>Native Am n (%)</b>	<b>Total n (%)</b>
US	12 (100.0)	17 (34.7)	12 (85.7)	1 (2.9)	1 (100.0)	43 (38.7)
Outside US	0	32 (65.3)	2 (14.3)	34 (97.1)	0	68 (61.3)
Total	12 (10.8)	49 (44.1)	14 (12.6)	35 (31.5)	1 (0.9)	111 <sup>b</sup> (100.0)

<sup>a</sup> First line drugs consist of isoniazid, rifampin, pyrazinamide, ethambutol and streptomycin.

<sup>b</sup> Total number of cases that had initial susceptibility testing performed = 619; proportion that were resistant to at least one first line drug = 111/619 (17.9%).

Table 9. Frequency of resistance to first-line drugs among racial and ethnic groups, *Mycobacterium tuberculosis* complex, San Bernardino County, 1993-99.

<b>Drug Result</b>	<b>White n (%)<sup>b</sup> n (%)<sup>c</sup></b>	<b>Hispanic n (%) n (%)</b>	<b>Black n (%) n (%)</b>	<b>Asian n (%) n (%)</b>	<b>Native Am n (%) n (%)</b>	<b>Total n (%) n (%)</b>
<b>Isoniazid</b>						
Resistant	5 (5.0)	24 (9.4)	8 (8.7)	20 (12.1)	1 (16.7)	58 (9.4)
Susceptible	96 (95.0)	230 (90.2)	84 (91.3)	145 (87.9)	5 (83.3)	560 (90.5)
Not Tested <sup>d</sup>	0	0	0	0	0	1 (0.1)
<b>Rifampin</b>						
Resistant	2 (2.0)	4 (1.6)	2 (2.2)	2 (1.2)	0	10 (1.6)
Susceptible	98 (97.0)	248 (97.3)	89 (96.7)	162 (98.2)	6 (100.0)	603 (97.4)
Not Tested	0	2 (0.8)	1 (1.1)	0	0	2 (0.3)
<b>Pyrazinamide</b>	<b>1 (2.2)</b>	<b>7 (7.8)</b>	<b>1 (3.1)</b>			<b>9 (3.9)</b>
Resistant	1 (1.0)	7 (2.7)	1 (1.1)	0	0	9 (1.5)
Susceptible	42 (41.6)	81 (31.8)	29 (31.5)	68 (41.2)	4 (66.7)	224 (36.2)
Not Tested	55 (54.5)	165 (64.7)	60 (65.2)	95 (57.6)	2 (33.3)	377 (60.9)
<b>Ethambutol</b>		<b>12 (4.8)</b>		<b>4 (2.5)</b>		
Resistant	2 (2.0)	12 (4.7)	4 (4.3)	4 (2.4)	0	22 (3.6)
Susceptible	99 (98.0)	238 (93.3)	88 (95.7)	159 (96.4)	6 (100.0)	590 (95.3)
Not Tested	0	3 (1.2)	0	2 (1.2)	0	5 (0.8)
<b>Streptomycin</b>		<b>17 (6.9)</b>	<b>4 (4.5)</b>	<b>17 (10.6)</b>		<b>42 (7.0)</b>
Resistant	4 (4.0)	17 (6.7)	4 (4.3)	17 (10.3)	0	42 (6.8)
Susceptible	95 (94.1)	227 (89.0)	85 (92.4)	143 (86.7)	6 (100.0)	556 (89.8)
Not Tested	2 (2.0)	8 (3.1)	3 (3.3)	4 (2.4)	0	17 (2.8)
<b>Total Tested<sup>e</sup> (% Cases)</b>	<b>101 (16.3)</b>	<b>255 (41.2)</b>	<b>92 (14.9)</b>	<b>165 (26.7)</b>	<b>6 (0.9)</b>	<b>619</b>

<sup>a</sup> Frequency of resistance to first-line drugs among cases for which an initial susceptibility test was conducted; a drug resistance panel was not performed for all tuberculosis cases.

<sup>b</sup> n (%) = Number and percent of only those specimens for which testing was performed on the drug indicated (if different from proportion c) that were resistant.

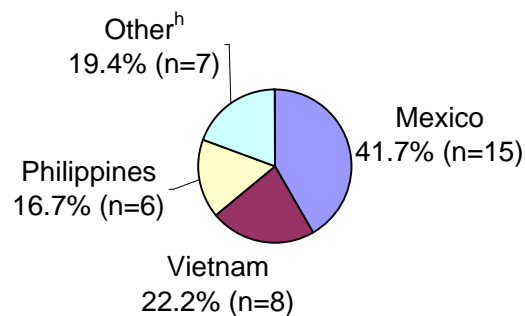
<sup>c</sup> n (%) = Number and percent of all specimens submitted for testing, whether or not a test was performed on the drug indicated, that were resistant.

<sup>d</sup> Not all anti-tuberculosis drugs were tested for each drug susceptibility panel ordered; 'Not Tested' indicates drugs for which a test was not performed as part of the susceptibility panel; test results that were completed but unknown were excluded from this table.

<sup>e</sup> Total may not sum to 100% because some test results are unknown. Unknown results are not enumerated in this table but are represented by the total number tested.

Foreign-born cases with drug resistant tuberculosis were most frequently born in Mexico. Of the 36 foreign-born INH-resistant cases, 15 (41.7%) were born in Mexico, 8 (22.2%) in Vietnam and 6 (16.7%) in the Philippines (Figure 10). Similarly, of the 68 foreign-born cases with tuberculosis resistant to at least one first line drug, 27 (39.7%) were born in Mexico, 17 (25.0%) in Vietnam, 7 (10.3%) in the Philippines, and 4 (5.9%) in Cambodia. Approximately 1 in 20 cases reported between 1993 and 1999 had a documented previous episode of tuberculosis. Of 45 cases with a previous episode of tuberculosis, 32 (71.1%) had an initial susceptibility test performed and only 221 (37.7%) of the remaining 586 had initial susceptibility testing performed. Five (15.6%) cases with a reported history of tuberculosis disease were resistant to INH, whereas 53 (9.0%) of those with no history of active tuberculosis were resistant to INH.

**Figure 10. Country of origin, cases born outside the US with isoniazid-resistant tuberculosis (n=36), San Bernardino County, 1993-99**



However, the difference is not statistically significant (Fisher's  $p=0.17$ ). Of those with a previous episode of tuberculosis, 26 (57.8%) were born outside the US. Fifteen (33.3%) were Asian, 14 (31.1%) were Hispanic, 9 (20.0%) were white, and 7 (15.6%) were black. The median age at the time of the current diagnosis was 52 years (range: 18-94 years).

Table 9 shows that the majority of cases in blacks (95.2%) and whites (94.5%) during this time period were born in the US while approximately half of Hispanics (54.3%) and most Asians (91.5%) were born outside the US. These data suggest that transmission of drug resistant tuberculosis did not frequently occur in San Bernardino County during the period 1993-99. During this period, ongoing transmission of tuberculosis in San Bernardino County appears to have occurred more frequently than throughout other regions of California, as the proportion of San Bernardino County cases born outside the US has historically been lower than for the State as a whole. The rise in this proportion in conjunction with the reduction in the number of child cases reported since 1993 serve as indicators for reduced ongoing transmission of tuberculosis locally.

## Summary and Comment

During the period 1986-2000, it is estimated that the population of San Bernardino County has grown 54% to approximately 1.7 million residents (see Appendix E). Following 1993, the rate of growth has declined substantially. Although an actual population increase was observed in all racial and ethnic groups, the proportionate change in population structure was experienced unequally across them. The racial and ethnic groups that are most burdened by tuberculosis in San Bernardino County are also those that continue to experience the largest proportionate increases in population. The Asian population serves to vividly illustrate this point, as do the Hispanic and black populations, particularly in males. In contrast, the rate of tuberculosis in the white population, which has essentially remained unchanged between 1993 and 2000 relative to the other racial and ethnic groups defined in this report, was consistently lowest during 1986-99. In fact, white females and males are the only population groups to have met in 1999 the Healthy People 2000 Objective of 3.5 cases per 100,000 population.

Following a general decline since national reporting of tuberculosis was initiated in 1953, the resurgence of tuberculosis that was observed nationwide during the late 1980s and early 1990s was also experienced by San Bernardino County. Nationally, this resurgence is attributed to a number of factors including the association of tuberculosis with the HIV epidemic, a reduction in health care infrastructure, transmission in congregate settings such as prisons, and immigration to the US from areas where tuberculosis is common.<sup>5</sup> A subsequent general decline has been observed in San Bernardino County since incidence peaked in 1993. Despite the slight rise in incidence between 1998 and 1999, there does not appear to be a population group that accounts for this increase. Between 1993 and 1999, in fact, incidence declined 25% overall, a decrease that can at least in part be accredited to intensified local efforts to combat tuberculosis, including the institution of a Directly Observed Therapy (DOT) program. The control of tuberculosis remains a concern in San Bernardino County and continues to require numerous resources. Although San Bernardino County reports more cases than many states, the local rate of tuberculosis differs little from that recorded for the US. In fact, the rate of tuberculosis in San Bernardino County for 1998 was actually significantly less than that for California and slightly less than that for the US.

Persons with HIV infection are at very high risk for developing tuberculosis. The epidemics of tuberculosis and HIV/AIDS occurred in temporal association with one another in San Bernardino County, both peaking locally in 1993. Although the incidence of AIDS in 1993 was artificially inflated due to the change in the definition of AIDS, incidence rates for both diseases have since concurrently declined. Since 1983, reported AIDS cases in San Bernardino County have been predominately male. Certain male populations were affected by tuberculosis more greatly than the general population, possibly in association with HIV infection.

Incidence declined in children under 15 years of age, particularly in the Hispanic population. As a reflection of the reduced incidence in adults, these data indicate that ongoing transmission of tuberculosis has decreased in San Bernardino County during this time period. The proportion of Asian cases under 5 years of age reported between 1993 and 1999 that were born outside the US was approximately 2.5 times that for Hispanic children of the same age group during the same time period. Birth in a country where tuberculosis is common is representative of an exposure and resultant infection having occurred in that country. These data

suggest that ongoing local transmission of tuberculosis occurred more frequently among the Hispanic population than other racial and ethnic groups. The social dynamics and other factors that preclude more precise interpretation of these data include the proximity of Hispanic countries to San Bernardino County and resultant differences in travel to and from the country of origin, the relative quantities of these racial and ethnic populations in the County, and differences in access to health services and subsequent rapid diagnosis of illnesses such as tuberculosis that are more difficult to evaluate.

During 1993-99 cases were more frequently born outside the US. In fact, the proportion of cases born in the US has continually declined since 1993. The majority of these cases originated from either Asia (46.3%) or North America (47.7%), of which more than 85% (n=173) were born in Mexico and therefore identify their ethnicity as Hispanic. Following Mexico, the nations from which the most cases originated were the Philippines (n=71) and Vietnam (n=54). Greater than 90% of both whites and blacks, and naturally all Native Americans, were born in the US. In contrast, approximately half of Hispanics and only 8% of Asians were born in the US. Males in all racial and ethnic groups experienced a greater burden of disease than females. However, this difference was not evenly distributed among racial and ethnic groups. This observation, combined with the patterns expressed through country of origin data, suggest that ongoing transmission of tuberculosis among US-born individuals has occurred primarily among males. Males may be more likely exposed to an individual with infectious tuberculosis as a result of gender differences in the social dynamics influencing transmission of tuberculosis. These include infection with HIV and behaviors that put one at risk for HIV infection. Nearly 90% of tuberculosis cases are over age 25 years and about one-fourth of them are 65 years of age or older, and approximately 90% of AIDS cases reported in San Bernardino County in the last 5 years were between 25 and 54 years of age. Additionally, many of the US-born cases may have resulted from activation of latent tuberculosis infection acquired during times of war and other situations where males have historically lived in congregate settings. The frequency of incarceration for males, in addition, exceeds that for females, placing them in a congregate setting in which the opportunity for transmission of tuberculosis is enhanced.

Drug-resistant strains of MTB complex have presented a formidable obstacle for tuberculosis control programs both in the US and throughout the world. During 1993-99, less than 1 of every 10 cases for which drug susceptibility test results was known was resistant to INH. The majority of INH-resistant cases were US-born indicating that INH-resistant strains of tuberculosis have circulated or have been created in the US and possibly San Bernardino County. Less than 1 out of every 100 cases (n=5) was multiply drug resistant. Only 2 multiply drug resistant cases were born in the US. The majority of cases, and virtually all Asian and 65% of Hispanic cases, reported in San Bernardino County from 1993 to 1999 that were resistant to at least 1 first-line drug were born outside the US.



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## Footnotes for Figures in Section 3

### Figure 1

<sup>a</sup> Rates for Native American race not included because rates may be unstable (n<20).

<sup>b</sup> California Department of Finance, Demographic Research Unit; mid-year population estimates 1986-96; mid-year population projections 1997-99.

<sup>c</sup> Mid-point denominator values = average of 1992-93 mid-year estimates.

### Figure 2

<sup>b</sup> California Department of Finance, Demographic Research Unit; mid-year population estimates 1986-96; mid-year population projections 1997-99.

<sup>d</sup> Rates may be unstable (n<100).

### Figure 4

<sup>e</sup> Native American race not included (n=0).

### Figure 7

<sup>f</sup> Frequency resistant among those tested; during 1993-99, 619 cases (70.6%) had initial drug susceptibilities performed for at least INH and RIF.

<sup>g</sup> R = Resistant;  
S = Susceptible.

### Figure 8

<sup>h</sup> Cambodia (1), Hong Kong (1), India (1), Indonesia (2), Korea (1), Uganda (1).



# **Appendices**

**A. Healthy People 2000 Progress Report**

**B. 1999 Outbreaks of Illness**

**C. List of Reportable Diseases and Conditions**

**D. California Department of Finance Population Estimates, 1998-99**

**E. Population Dynamics, San Bernardino County, 1986-2000**

**F. Footnotes**

**G. Data Sources**



## San Bernardino County Reported Communicable Diseases 1999

### *Appendix A: Healthy People 2000 Progress Report*

Comparison of Progress toward Healthy People 2000 Goals for Selected<sup>a</sup> Reportable Diseases, San Bernardino County and California

Reportable Disease	San Bernardino County	California	HP 2000 Goal
AIDS	8.0 per 100,000 population	11.5 per 100,000 population	43.0 per 100,000 population
Campylobacteriosis	9.3 per 100,000 population	16.1 per 100,000 population	25.0 per 100,000 population
Chlamydia	0.8% of females < 25 years	Data Not Available	5.0% of females < 25 years
<i>E. coli</i> O157:H7 Infection	0.1 per 100,000 population	0.6 per 100,000 population	4.0 per 100,000 population
Gonorrhea	44.1 per 100,000 population	54.8 per 100,000 population	100.0 per 100,000 population
Hepatitis A	7.9 per 100,000 population	10.1 per 100,000 population	16.0 per 100,000 population
Listeriosis	0.3 per 100,000 population	0.3 per 100,000 population	0.5 per 100,000 population
Measles (Rubeola)	0 cases	18 cases*	0 cases
Rubella	0 cases	5 cases*	0 cases
Salmonellosis	10.9 per 100,000 population	12.4 per 100,000 population	16.0 per 100,000 population
Syphilis, Primary & Secondary	0.7 per 100,000 population	0.8 per 100,000 population	4.0 per 100,000 population
Tuberculosis	6.8 per 100,000 population*	10.6 per 100,000 population*	3.5 per 100,000 population

\* Denotes indicators that do not meet or exceed HP 2000 goal.

<sup>a</sup> Selected diseases consist of those that are included in this report for which HP 2000 comparison can be made to local indicators produced from existing and available data.

## San Bernardino County Reported Communicable Disease 1999

### *Appendix B: 1999 Outbreak Summaries*

#### Foodborne Illness Outbreaks

January 1999 Four residents of Grand Terrace purchased and shared pepperoni, cheese and sausage pizzas at a local fast food establishment. This was the only meal common to all four residents. Between two and four hours later, all four became ill with diarrhea, vomiting, abdominal cramps and nausea. The median duration of the illnesses was 24 hours. None of the residents required medical care and none would agree to stool testing by the Public Health Laboratory. Environmental Health Services (EHS) found no significant deficiencies at the fast food establishment.

February 1999 A resident hosted a Super Bowl party at her home serving premade chicken wings purchased at a local supermarket, potluck salads, pasta, beans and finger-style snacks prepared by both the hostess and guests. The resident later reported that 17 (53.1%) of 32 adults and children were ill. The meal was eaten buffet-style across four hours. Between 24 and 72 hours after eating the meal, the attendees became ill with a combination of nausea, abdominal cramps, diarrhea, fever, vomiting and muscle aches. The median duration of symptoms was 24 hours. None of the ill attendees required medical care. Analysis of the interviews did not detect a food item significantly associated with illness. None of the attendees submitted stool specimens and no leftover food was available for testing.

May 1999 Thirty seven individuals from three counties attended a workshop at a local center. A local fast food establishment provided chicken, rice, potato salad, salsa, beans and tortillas. A workshop attendee provided a cream-filled cake. Between 5 and 15 hours after eating the meal, an unknown number of the attendees became ill with diarrhea, abdominal cramps, and nausea. Of the 11 attendees who agreed to be interviewed, 8 were ill. The median duration of illness was 18 hours. An analysis of the interviews showed that 8 (89%) of the 9 attendees who ate the beans became ill, while none of the attendees who did not eat the beans became ill. The beans were significantly associated with illness ( $p = 0.018$ ). The pinto beans were delivered to the restaurant in large bags, washed, spices added, and cooked in large batches as needed. After cooking, the beans were put into trays to cool. On inspection, EHS found numerous deficiencies, including employees not washing their hands, and food served and stored at temperatures that would allow bacteria to grow. A batch of beans prepared the day before the inspection was found at an improper temperature and was discarded at the request of EHS. None of the ill attendees required medical attention and none submitted stool specimens or leftover food items for testing by the Public Health Laboratory.

August 1999 After a routine camp inspection in the mountains area, EHS notified the Epidemiology Program of multiple illnesses in campers and staff. Of 184 teen-aged campers and staff, approximately 50 complained of diarrhea and abdominal cramps on one day. The illnesses lasted approximately 24 hours. Three Public Health employees drove to the site and attempted to interview the campers and staff, however, only 22 would agree to be interviewed. Analysis of the interviews did not associate one food item with illness. The camp infirmary logs were copied to calculate the normal numbers of complaints and the numbers of diarrheal illnesses for the day the illnesses occurred. The logs showed that 57 (30.9%) campers and staff sought treatment for diarrhea and abdominal cramps on August 11, 1999. Normal numbers of medical complaints of any kind is approximately 30 per day at the camp. On August 10 and August 12, 1999, only one

## **San Bernardino County Reported Communicable Disease 1999**

### ***Appendix B: 1999 Outbreak Summaries***

person per day requested treatment for gastrointestinal complaints. EHS found numerous problems in the camp kitchen, including extensive rodent contamination, raw meat dripping blood onto potato salad, food stored and served at improper temperatures and a volunteer food preparation staff. A different group rents the camp each week from a group located in another county. EHS requested that the camp owner require each group renting the camp to have at least one individual with a food preparation card. None of the ill individuals would agree to submit stool specimens and no left over food was available for testing.

August 1999 The hostess of a birthday party in a private home called EHS after approximately 13 (65.0%) of the 20 attendees became ill with nausea, vomiting, diarrhea and abdominal cramps. The menu included beef, salads, beans, vegetables and several kinds of desserts prepared by both the hostess and the guests. The potato salad was purchased at a local fast food restaurant by the hostess. The time from eating the meal to onset of illness ranged from 24 to 51 hours with a median incubation period of 34 hours. Illness lasted a median of 36 hours. Analysis of the interviews showed that of the 11 individuals who ate the potato salad, 10 (90.9%) became ill. None of the people who did not eat the potato salad became ill. The salad was purchased in a plastic tray and refrigerated within 30 minutes. The hostess did not add anything else to the salad before serving and kept the salad cold. On inspection of the restaurant, EHS did not find any significant deficiencies, however the hostess had already called the restaurant to complain. The potato salad is prepared at the restaurant using boiled potatoes, commercially prepared mayonnaise, olives, onions and carrots. EHS was not able to observe preparation of the potato salad. Past inspections at the fast food establishment noted that it had stored food at improper temperatures and pots of potatoes on the floor. None of the employees were ill. The attendees who submitted stool specimens for bacterial testing were negative. No leftover potato salad was available for testing.

November 1999 Four (66.7%) of six people became ill after eating at a local fast food restaurant specializing in Mexican food. This was the only meal in common to the three households. Between 30 and 35 hours after eating the meal, the group became ill with vomiting and diarrhea, which lasted a median of 7 hours. Analysis of the food items reported on the interviews did not detect a food item significantly associated with illness. On inspection, EHS did not find any significant discrepancies at the restaurant. None of the ill attendees submitted stool specimens and no leftover food was available for testing by the Public Health Laboratory.

Note: In none of the foodborne outbreaks was an etiological agent identified. There are several obstacles in an outbreak investigation to identifying the agent causing the illnesses. Delays in reporting of outbreaks to Public Health are numerous and may contribute to faulty recollection of food items consumed. The percentage of individuals willing to be interviewed or submit a stool specimen for testing drops dramatically once the symptoms subside. Many of the ill individuals in an outbreak do not require medical attention. If they did consult a physician, they may not have been tested. In some outbreaks, the agent was probably viral and transmitted from contaminated hands to one of more foods at a meal. Viral testing is difficult and requires obtaining a stool specimen within the first days of illness, while the individual is still having loose stools. Some bacteria are commonly found associated with humans; therefore their presence in stool does not indicate a cause of illness. Additional testing of leftover foods or stool

## **San Bernardino County Reported Communicable Disease 1999**

### ***Appendix B: 1999 Outbreak Summaries***

for the presence of a bacterial toxin is required. Testing of leftover food must be interpreted with caution since it may have been handled extensively and left at room temperature after purchase.

#### **1999 NonFoodborne Illness Outbreaks**

March 1999 A San Bernardino City preschool reported 7 (41.1%) of 17 children in one classroom with conjunctivitis during a three week period. On the recommendation of the Epidemiology Program, the preschool increased surveillance in the classroom, excluding ill children until 24 hours after the start of treatment recommended by their physician. Staff increased monitoring of hand washing among children and sanitizing of toys. The preschool sent an educational letter home to parents notifying them of the situation and providing education on prevention of infection. A Public Health employee contacted the center weekly until no new cases were reported.



# San Bernardino County Reported Communicable Diseases 1999

## Appendix C: Reportable Diseases and Conditions



### **SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC HEALTH**

**799 East Rialto Avenue, San Bernardino, CA 92415-0010 (909) 383-3050 (909) 386-8325 FAX**

### **REPORTABLE DISEASES AND CONDITIONS**

#### **California Code of Regulations**

#### **Section 2500. Reporting to the Local Health Authority**

##### 1. Communicable Diseases

Acquired Immune Deficiency Syndrome (AIDS)	Lyme Disease
Amebiasis †	Lymphocytic Choriomeningitis †
Anisakiasis †	Malaria †
Anthrax*	Measles (Rubeola) †
Babesiosis †	Meningitis, Specify Etiology: Viral, Bacterial, Fungal,
Botulism (Infant, Foodborne, Wound)*	Parasitic †
Brucellosis	Meningococcal Infections *
Campylobacteriosis †	Mumps
Chancroid	Non-Gonococcal Urethritis (Excluding Laboratory Confirmed
Chlamydial Infections	Chlamydial Infections)
Cholera*	Paralytic Shellfish Poisoning *
Ciguatera Fish Poisoning*	Pelvic Inflammatory Disease (PID)
Coccidioidomycosis	Pertussis (Whooping Cough) †
Colorado Tick Fever †	Plague, Human or Animal *
Conjunctivitis, Acute Infectious of the Newborn,	Poliomyelitis, Paralytic †
Specify Etiology †	Psittacosis †
Cryptosporidiosis †	Q Fever †
Cysticercosis	Rabies, Human or Animal *
Dengue*	Relapsing Fever †
Diarrhea of the Newborn, Outbreaks*	Reye Syndrome
Diphtheria*	Rheumatic Fever, Acute
Domoic Acid Poisoning (Amnesic Shellfish Poisoning) *	Rocky Mountain Spotted Fever
Echinococcosis (Hydatid Disease)	Rubella (German Measles)
Ehrlichiosis (HGE)	Rubella Syndrome, Congenital
Encephalitis, Specify Etiology: Viral, Bacterial, Fungal,	Salmonellosis (Other than Typhoid Fever) †
Parasitic †	Scombroid Fish Poisoning *
Escherichia coli 0157:H7 *	Shigellosis †
Foodborne Disease † ?	Streptococcal Infections (Outbreaks of Any Type and Individual
Giardiasis	Cases in Food Handlers and Dairy Workers Only) †
Gonococcal Infections	Swimmer's Itch (Schistosomal Dermatitis) †
Haemophilus influenzae, Invasive Disease †	Syphilis †
Hantavirus Infections *	Tetanus
Hemolytic Uremic Syndrome *	Toxic Shock Syndrome
Hepatitis A †	Toxoplasmosis
Hepatitis B, Cases or Carriers (Specify)	Trichinosis †
Hepatitis C (Acute or Chronic)	Tuberculosis †
See Note	Tularemia
Hepatitis D (Delta)	Typhoid Fever, Cases and Carriers †
Hepatitis, other, acute	Typhus Fever
Kawasaki Syndrome (Mucocutaneous Lymph Node	Vibrio Infections †
Syndrome)	Viral Hemorrhagic Fevers *
Legionellosis	Water-associated Disease †
Leprosy (Hansen Disease)	Yellow Fever *
Leptospirosis	Yersiniosis †
Listeriosis †	

# San Bernardino County Reported Communicable Diseases 1999

## *Appendix C: Reportable Diseases and Conditions*

### **Section 2500. Reporting (cont'd)**

OCCURRENCE OF ANY UNUSUAL DISEASE - a rare disease or emerging disease or syndrome of uncertain etiology which could possibly be caused by a transmissible infectious agent.

OUTBREAK OF ANY DISEASE\* - occurrence of cases of a disease above the expected level over a given amount of time, in a geographic area or facility, or in a specific population group, including diseases not listed in Section 2500.

Note: Guidelines for Reporting Hepatitis C/NANB – When reporting hepatitis C cases, please include HAV IgM, HbsAg, and HbcAb test results, liver enzymes, and date of onset of illness if known.

### 2. Non-Communicable Disease and Conditions

#### Alzheimer's Disease and Related Conditions

#### Disorders Characterized by Lapses of Consciousness

- \* To be reported immediately by telephone.
- † To be reported by mailing a report or by telephoning within one (1) working day of identification of the case or suspected case. All other conditions are to be reported within seven (7) calendar days from the time of identification.
- ? When two (2) or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness, they should be reported immediately by telephone.

IDB/DHS Effective 2/2/96

### **Section 2505. Notification by laboratories. Laboratories are to report the following diseases:**

Chlamydial infections  
Cryptosporidiosis  
Diphtheria  
Encephalitis, arboviral  
Escherichia coli O157:H7 infection  
Gonorrhea  
Hepatitis A, acute infection, by IgM antibody test or positive viral antigen test  
Hepatitis B, acute infection by IgM anti-HBc antibody test  
Hepatitis B, surface antigen positivity (specify gender)  
Listeriosis  
Malaria  
Measles (Rubeola), acute infection, by IgM antibody test or positive viral antigen test  
Plague, animal or human  
Rabies, animal or human  
Syphilis  
Tuberculosis  
Typhoid  
Vibrio species infections

## San Bernardino County Reported Communicable Diseases 1999

### *Appendix C: Reportable Diseases and Conditions*

#### **REPORTABLE DISEASES AND CONDITIONS**

##### **California Code of Regulations**

**HOW TO REPORT:** Extremely urgent conditions (i.e., anthrax, botulism, cholera, dengue, diphtheria, foodborne disease, plague, rabies, and relapsing fever) should be reported by telephone immediately, 24-hours a day. Other urgent conditions should be reported by telephone during regular business hours. Non-urgent conditions may be reported by telephone or mail on confidential morbidity report (CMR) forms. These forms must be filled out completely. All of the requested information is essential, including the laboratory information for selected diseases on the front of the form. All telephone and mailed reports are to be made to the Epidemiology Program in San Bernardino.

##### **San Bernardino County Department of Public Health**

**799 East Rialto, San Bernardino, CA 92415-0011**

**(909) 383-3050 (909) 386-8325 FAX (909) 356-3805 Night and Weekend Emergency**

**ORDERING CMRs:** For the reporting of non-urgent conditions we will supply CMRs to all providers wishing to utilize them. Once or twice weekly you may insert all accumulated CMRs into an envelope and mail them. For a camera-ready copy of the CMR form, contact the San Bernardino office at the daytime phone number.

**ANIMAL BITE:** Animal bites by a species subject to rabies are reportable in order to identify persons potentially requiring prophylaxis for rabies. Additionally, vicious animals are identified and controlled by this regulation and local ordinances (California Code of Regulations, Title 17, Sections 2606, et seq.: Health and Safety Code Sections 1900-2000). Reports can be filed with the local animal control agency or the County Animal Control Office at 1-800-472-5609 may assist you in filing your report.

**LABORATORY REPORTING:** Forward a copy of the laboratory report within one day of report to health care provider. Line listings are not acceptable. Forward to the county in which the health care provider is located or to the State Health Officer if out of California. Information which should be included:

##### **Patient Information**

?? Name  
?? Date of Birth  
?? Identification Number  
?? Address (if known)  
?? Telephone Number (if known)

##### **Specimen Information**

?? Result  
?? Date Taken  
?? Date Reported  
?? Accession Number

##### **Provider Information**

?? Name  
?? Address  
?? Telephone Number

**PESTICIDE EXPOSURE:** The Health and Safety Code, Section 105200, requires that a physician who knows, or who has reason to believe, that a patient has a pesticide-related illness or condition must report the case to the local County Health Department by telephone within 24 hours.

This reporting requirement includes all types of pesticide related illnesses: skin and eye injuries, systemic poisonings, suicides, homicides, home cases, and occupational cases. **Failure to comply with the foregoing reporting requirements renders the physician liable for a civil penalty of \$250.00.** Phone reports may be made to (909) 383-3050.

For occupational exposure there is an additional requirement to send the "Doctor's First Report of Occupational Injury or Illness" to the Department of Health within seven days. Copies of the report form (5021, Rev. 4/92) may be obtained from the same office for future use.

**CANCER REPORTING:** Under state law (Chapter 841. Statutes of 1985) invasive or in situ malignancies (including CIN III of the cervix), except basal and squamous cell carcinomas of the skin, diagnosed on or after June 1, 1988 which have not been admitted to a California hospital for diagnosis or treatment of cancer, and who will not be referred to a California hospital for diagnosis or treatment must be reported to the County Health Department on a Confidential Morbidity Report (CMR) form. For additional information on cancer reporting requirements, please contact the Cancer Surveillance Program, (909) 799-6170.

# San Bernardino County Reported Communicable Diseases 1999

## Appendix D: California Department of Finance Population Estimates

San Bernardino County Population by Race/Ethnicity, Sex, and Age: 1999

Age	All Race/Ethnicities			White			Hispanic			Asian/Pacific Islander			Black			Native American		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1	30,131	15,397	14,734	10,880	5,560	5,320	14,621	7,474	7,147	1,587	809	778	2,879	1,470	1,409	164	84	80
1-4	123,224	62,874	60,350	47,667	24,402	23,265	57,095	29,133	27,962	6,300	3,250	3,050	11,507	5,753	5,754	655	336	319
5-9	162,540	82,847	79,693	75,189	38,492	36,697	62,897	31,984	30,913	7,574	3,897	3,677	16,115	8,094	8,021	765	380	385
10-14	141,558	71,975	69,583	69,871	35,828	34,043	50,259	25,383	24,876	6,620	3,363	3,257	14,033	6,988	7,045	775	413	362
15-19	129,792	66,883	62,909	65,529	33,864	31,665	44,547	22,981	21,566	6,269	3,211	3,058	12,532	6,360	6,172	915	467	448
20-24	109,638	56,487	53,151	53,864	27,787	26,077	38,601	19,897	18,704	5,853	3,003	2,832	10,523	5,400	5,123	815	400	415
25-29	113,800	60,999	52,801	54,800	28,561	26,239	40,836	22,887	17,949	6,040	3,057	2,983	11,245	6,000	5,245	879	494	385
30-34	124,199	63,871	60,328	62,381	31,178	31,203	42,640	23,104	19,536	6,191	2,969	3,222	12,212	6,217	5,995	775	403	372
35-39	142,972	71,644	71,328	80,748	39,899	40,849	41,395	21,717	19,678	6,884	3,224	3,660	13,068	6,389	6,679	877	415	462
40-44	134,366	66,976	67,390	80,074	39,978	40,096	35,126	18,009	17,117	6,996	3,182	3,814	11,228	5,352	5,876	942	455	487
45-54	191,493	96,386	95,107	121,883	61,706	60,177	43,183	22,116	21,067	10,468	4,791	5,677	14,469	7,054	7,415	1,490	719	771
55-64	105,994	52,146	53,848	71,632	35,432	36,200	21,266	10,385	10,881	4,831	2,285	2,546	7,318	3,577	3,741	947	467	480
65+	142,656	60,061	82,595	109,583	45,711	63,872	21,954	9,626	12,328	4,416	1,806	2,610	5,832	2,553	3,279	871	365	506
Total	1,652,363	828,546	823,817	904,101	448,398	455,703	514,420	264,696	249,724	80,011	38,847	41,164	142,961	71,207	71,754	10,870	5,398	5,472

San Bernardino County Population by Race/Ethnicity, Sex, and Age: 1998

Age	All Race/Ethnicities			White			Hispanic			Asian/Pacific Islander			Black			Native American		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1	30,131	15,397	14,734	10,880	5,560	5,320	14,621	7,474	7,147	1,587	809	778	2,879	1,470	1,409	164	84	80
1-4	123,224	62,874	60,350	47,667	24,402	23,265	57,095	29,133	27,962	6,300	3,250	3,050	11,507	5,753	5,754	655	336	319
5-9	162,540	82,847	79,693	75,189	38,492	36,697	62,897	31,984	30,913	7,574	3,897	3,677	16,115	8,094	8,021	765	380	385
10-14	141,558	71,975	69,583	69,871	35,828	34,043	50,259	25,383	24,876	6,620	3,363	3,257	14,033	6,988	7,045	775	413	362
15-19	129,792	66,883	62,909	65,529	33,864	31,665	44,547	22,981	21,566	6,269	3,211	3,058	12,532	6,360	6,172	915	467	448
20-24	109,638	56,487	53,151	53,864	27,787	26,077	38,601	19,897	18,704	5,835	3,003	2,832	10,523	5,400	5,123	815	400	415
25-29	113,800	60,999	52,801	54,800	28,561	26,239	40,836	22,887	17,949	6,040	3,057	2,983	11,245	6,000	5,245	879	494	385
30-34	124,199	63,871	60,328	62,381	31,178	31,203	42,640	23,104	19,536	6,191	2,969	3,222	12,212	6,217	5,995	775	403	372
35-39	142,972	71,644	71,328	80,748	39,899	40,849	41,395	21,717	19,678	6,884	3,224	3,660	13,068	6,389	6,679	877	415	462
40-44	134,366	66,976	67,390	80,074	39,978	40,096	35,126	18,009	17,117	6,996	3,182	3,814	11,228	5,352	5,876	942	455	487
45-54	191,493	96,386	95,107	121,883	61,706	60,177	43,183	22,116	21,067	10,468	4,791	5,677	14,469	7,054	7,415	1,490	719	771
55-64	105,994	52,146	53,848	71,632	35,432	36,200	21,266	10,385	10,881	4,831	2,285	2,546	7,318	3,577	3,741	947	467	480
65+	142,656	60,061	82,595	109,583	45,711	63,872	21,954	9,626	12,328	4,416	1,806	2,610	5,832	2,553	3,279	871	365	506
Total	1,652,363	828,546	823,817	904,101	448,398	455,703	514,420	264,696	249,724	80,011	38,847	41,164	142,961	71,207	71,754	10,870	5,398	5,472

## San Bernardino County Reported Communicable Diseases 1999

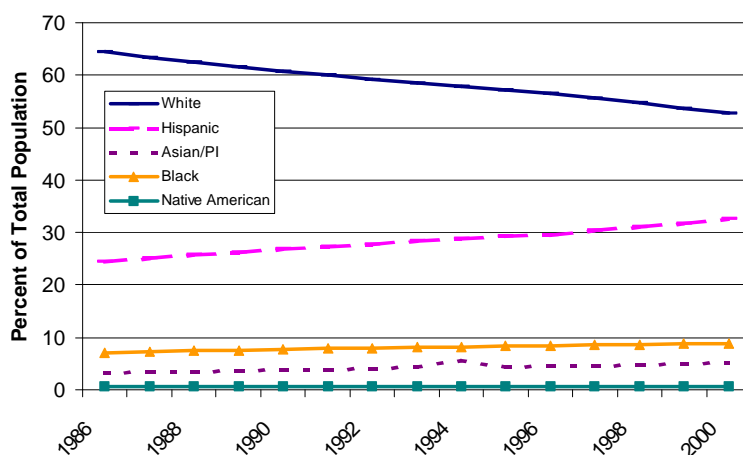
### Appendix E: Population Dynamics, San Bernardino County, 1986-2000

The population of San Bernardino County will grow 54.1% from 1.12 million people in 1986 to an estimated 1.73 million people in 2000 (Table 1). Overall growth during the period 1986 to 1992 was more than 3 times greater than the growth observed during the period 1993 to 2000 (36.7% vs. 11.3%), respectively. The largest increase between 1986 and 2000 was observed in the Asian population (142.6%), which was followed by the Hispanic (106.0%), black (93.6%) and Native American (32.5%) populations. Of all racial and ethnic groups, the increase for whites (26.0%), measured as actual population change, was slightest. Actual growth in the white population has plunged to virtual stagnation since 1993. Although the actual population of

Table 1. Population growth trends measured in actual change by race, San Bernardino County, 1986-2000<sup>a</sup>.

Race	Population (% Total)		% Increase 1986-1992	Population (% Total)		% Increase 1993-2000	% Increase 1986-2000
	1986	1992		1993	2000		
White	722,586 (64.5)	906,819 (59.2)	25.5	907,811 (58.5)	910,267 (52.7)	0.3	<b>26.0</b>
Hispanic	274,034 (24.5)	427,702 (27.9)	56.1	440,878 (28.4)	563,797 (32.6)	27.9	<b>106.0</b>
Asian	36,962 (3.3)	64,090 (4.2)	73.3	68,660 (4.4)	89,686 (5.2)	30.6	<b>142.6</b>
Black	78,708 (7.0)	122,754 (8.0)	56.0	126,316 (8.1)	152,417 (8.8)	20.7	<b>93.6</b>
Native American	8,518 (0.76)	10,494 (0.69)	23.2	10,500 (0.68)	11,285 (0.65)	7.5	<b>32.5</b>
Total	1,120,808	1,531,859	36.7	1,552,165	1,727,452	11.3	<b>54.1</b>

Figure 1. Race-specific population trends (as percent of total), San Bernardino County, 1986-2000<sup>a</sup>



## **San Bernardino County Reported Communicable Diseases 1999**

### ***Appendix E: Population Dynamics, San Bernardino County, 1986-2000***

each racial and ethnic group increased during this period, the proportions of both whites and Native Americans to the total population decreased by 18.3% and 14.5%, respectively. Conversely, the proportions of Asians, Hispanics and blacks each increased substantially (Figure 1). Despite these trends, whites constitute approximately one-half of the population of San Bernardino County and Hispanics contribute an additional one-third. Each of the remaining racial and ethnic groups, as they are defined in this report, contributes less than one-tenth of the total population.

## San Bernardino County Reported Communicable Diseases 1999

### Appendix F: Footnotes

- (1) To obtain a copy of the most recent AIDS Program report, please call (909) 383-3060.
- (2) Pelvic Inflammatory Disease (PID) does not include chlamydial PID or gonococcal PID, which are shown separately under chlamydia and gonorrhea respectively. PID cases for which the etiologic agent is determined to be *Chlamydia trachomatis* or *N. gonorrhoeae* are included in the total number of cases of chlamydia and gonorrhea, respectively.
- (3) Diagnosis of cholera is confirmed by isolating *Vibrio cholerae* from feces, and is distinguished from isolation of other *Vibrio* species that also cause gastrointestinal disease and are counted as *Vibrio* Infections in this report. In 1999, the one non-cholera case due to *Vibrio* infection was caused by infection with *V. vulnificus*.
- (4) Midway through 1992, penicillinase-producing *Neisseria gonorrhoeae* (PPNG) was no longer tested for in the Public Health Department Laboratory and are thus no longer tallied as a separate category.
- (5) Effective January 10, 1998, invasive *Haemophilus influenzae* occurring in patients 30 years of age or older is no longer a reportable condition.
- (6) Effective December 1, 1998, individuals with hepatitis C antibody who do not meet the criteria to be reported as hepatitis C acute (see page 13 for acute hepatitis C case surveillance definition), are to be reported as hepatitis C chronic, at the request of the California Department of Health Services.
- (7) This category of bacterial meningitis does not include *Neisseria meningitidis*, which is reported separately as meningococcal meningitis or meningococemia.
- (8) Meningococcal disease includes both meningococcal meningitis and meningococemia, regardless of the *N. meningitidis* serogroup.
- (9) US data for 1999 was not available at the time this report was published.
- (10) Deleted from the nationally notifiable disease list in 1995.
- (11) Not a nationally notifiable disease.
- (12) Became a California notifiable disease in 1993.
- (13) Became a nationally notifiable disease in 1994.
- (14) Incidence rates calculated using the total number of males in the population as the denominator value.
- (15) Incidence rates calculated using the total number of females in the population as the denominator value.

## San Bernardino County Reported Communicable Diseases 1999

### Appendix G: Data Sources

#### Communicable Disease (CD) Incidence Data

(For all communicable diseases except AIDS, chlamydia, gonorrhea, non-gonococcal urethritis, pelvic inflammatory disease, syphilis-all stages, and tuberculosis)

- San Bernardino County** CD Data (1980-1999): San Bernardino County CD records.  
Tuberculosis Data (1980-99): San Bernardino County Tuberculosis Control Program records.
- California** CD Data (1990-1995): *Communicable Diseases in California*, California Department of Health Services; (1996-99): Direct communication with the California Department of Health Services (Provisional; last updated 3/13/2000).  
Rabies Data (1999): Krebs JW et al (1999). Rabies Surveillance in the United States during 1998. *JAVMA*, 215 (12): 1786-98.  
Tuberculosis Data (1990-1999): Direct communication with the California Department of Health Services Tuberculosis Control Branch.
- United States** CD Data (1990-98): US Department of Health and Human Services. (December 31, 1999). *Summary of Notifiable Diseases, United States, 1998*. Morbidity and Mortality Weekly Report, Vol. 47, No. 53.  
Rabies Data (1998): Krebs JW, et al (1999). Rabies Surveillance in the United States during 1998. *JAVMA*, 215 (12): 1786-98.

#### Sexually Transmitted Disease (STD) and AIDS Data

(For AIDS, chlamydia, gonorrhea, non-gonococcal urethritis, pelvic inflammatory disease, and syphilis-early latent, primary and secondary, and all stages)

- San Bernardino County** STD Data (1990-99): San Bernardino County CD records.  
AIDS Data (1990-99): San Bernardino County AIDS Program records.
- California** STD Data (1990-99): California Department of Health Services, STD Control Branch records (Provisional data).  
HIV Data (1990-99): California Department of Health Services Office of AIDS records.
- United States** STD Data (1990-97): California Department of Health Services. *Sexually Transmitted Disease in California, 1996 & 1997*. Sexually Transmitted Diseases Control Branch. Available: <http://www.dhs.ca.gov/dcdc/>; (1998): US Department of Health and Human Services. (September, 1999). *Sexually Transmitted Disease Surveillance, 1998*. Centers for Disease Control and Prevention, Division of Sexually Transmitted Diseases Prevention.

#### Population Data

##### **San Bernardino County &**

- California** Population Data (1990-99): State of California (February, 2000). *County Population Estimates and Components of Change, 1998-1999, with Historical Estimates, 1990-1998*. Department of Finance. Available: <http://www.dof.ca.gov/html/Demograp/repndat.htm>.

- United States** Data (1990-98): US Department of Health and Human Services (December 31, 1999). *Summary of Notifiable Diseases, United States, 1998*. Morbidity and Mortality Weekly Report, Vol. 47, No. 53; (1986-89): US Department of Health and Human Services (October 21, 1994). *Summary of Notifiable Diseases, United States, 1993*. Morbidity and Mortality Weekly Report, Vol. 42, No. 53.

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Handsfield, HH, Sparling, PF. (2000). *Neisseria Gonorrhoeae*. In Mandell, GL, Bennett, JE, Dolin, R (Eds.), *Principles and Practice of Infectious Diseases: Vol. 2* (Fifth ed.: 2242-58). New York, NY: Churchill Livingstone.



